United Nations A/AC.105/PV.409

General Assembly *Official Records*

Committee on the Peaceful Uses of Outer Space

409th Meeting
Thursday, 15 June 1995, 10 a.m.
Vienna

Chairman: Mr. Hohenfellner . . . . . (Austria)

The meeting was called to order at 10.20 a.m.

In the absence of the Chairman, Mr. Dumitru Mazilu (Romania), Vice-Chairman, took the Chair.

General exchange of views *(continued)*

Mr. Flores (Philippines): The Philippine delegation is very pleased that Mr. Peter Hohenfellner will continue to preside over the Committee. We wish to assure him of our full cooperation as he guides us towards the meaningful fulfilment of our tasks at this thirty-eighth session of the Committee.

We also wish to extend our warm felicitations to you, Mr. Mazilu, on your election to the post of Vice-Chairman. We are fully confident that your sterling qualities and excellent background will be of immense value to our work.

We come to this session fully aware of the primordial task we seek to achieve: to undertake an assessment of the ways and means of maintaining outer space for peaceful purposes and to determine the manner of ensuring that the benefits of space exploration and research are equally accessible and available to all.

We begin our work with a discussion of agenda items which are of general and significant interest to delegations here. The results of this discussion will, in the main, provide meaningful direction to this session.

The Philippine delegation concurs in the thrust of General Assembly resolution 49/34 of 9 December 1994, which mandated the Committee to give priority to consideration of the ways and means of maintaining outer space for peaceful purposes. We also share the great concern about this subject articulated by like-minded States during the thirty-seventh session of the Committee and the forty-ninth session of the General Assembly.

My delegation notes with satisfaction that these past efforts have succeeded in bringing to the fore more than ever the urgent need for greater global concern and action on the question of the maintenance of outer space for peaceful purposes.

My delegation commends the thorough and comprehensive work of the secretariat in the preparation of the two basic documents for our consideration at this session — the reports of the Scientific and Technical and the Legal Subcommittees. If we successfully complete the tasks that lie ahead, that will be, in no small measure, because of the efforts of the Chairmen of the two Subcommittees and the indefatigable work of the secretariat.

The Philippines also supports the current efforts of the Scientific and Technical Subcommittee regarding the urgent need to ensure the full implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82) — a need emphasized in General Assembly resolution 49/34.

We should also note the work done by the Working Group of the Whole in evaluating the state of the implementation of the recommendations of UNISPACE 82.

95-85633 (E)
V.95-57507

This record contains the original texts of speeches delivered in English and interpretations of speeches delivered in the other languages. Corrections should be submitted to original speeches only. They should be incorporated in a copy of the record and be sent under the signature of a member of the delegation concerned, *within one week of the date of publication*, to the Chief of the Verbatim Reporting Section, room C-178, United Nations, New York, N.Y. 10017, USA. Corrections will be issued after the end of the session in a consolidated corrigendum.

This is set forth particularly in the Working Group's report on its eighth session, held in 1994. That report included an update on international cooperation in the peaceful uses of outer space and technical studies on the improvement of participation of developing countries in the global exchange programme and on satellite-based radio-broadcasting services.

We also support the convening of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), with clear objectives and a thorough preparatory process, to take stock of the significant initiatives undertaken as a result of the recommendations made by UNISPACE 82.

While on the subject of the United Nations Programme on Space Applications, I wish to reaffirm the importance my delegation attaches to this worthy endeavour, providing a vehicle for international cooperation in space science and technology. It has been my delegation's ardent desire, as articulated on many occasions here in Vienna and in New York, to seek an expanding level of international cooperation, given its valuable role in meeting the development and other needs of developing countries like the Philippines.

The beneficial impact of the application of space technology in addressing the basic development and other needs of peoples in the developing world, involving aspects such as education, communication, food security, medicine, resource management, environmental protection, and disaster warning and management, cannot be overemphasized.

The Philippines also notes with satisfaction the report of the United Nations Expert on Space Applications, which focused on current efforts geared towards an expanded United Nations Programme on Space Applications. The report highlights the many significant accomplishments under the work programme endorsed by the Scientific and Technical Subcommittee.

The Philippines fully concurs in the view expressed at the thirty-fourth session of the Legal Subcommittee that that Subcommittee and its subsidiary bodies play a supportive role in other international forums dealing with the issue of preventing an arms race in outer space and the creation of a mechanism for cooperation between the Subcommittee and the Conference on Disarmament's Ad Hoc Committee on the Prevention of an Arms Race in Outer Space. We view this as a significant development reflecting the current global efforts to strengthen international cooperation in outer space as it relates to disarmament concerns.

On the issue of the duration of the Legal Subcommittee's sessions, the Philippines is also of the view that, as in other United Nations bodies, there is a need for considerable reduction and rationalization of the Subcommittee's work schedule. This is an important undertaking that should be given priority in the light of the budgetary and other resource constraints that the Subcommittee and, for that matter, the United Nations as a whole, have to grapple with at the present time.

My delegation also shares the view that an international framework for dealing with the problem of space debris is necessary. Indeed, my delegation views it as a crucial task to urgently establish the scientific and technical as well as the legal considerations for addressing this problem, which affects international cooperation in outer space activities. In our view, the solution of the problem of space debris is of great importance to the peoples of the world, who aspire to a safe, peaceful and equally productive outer space environment.

The Philippines is convinced that nations and peoples willing to come together and cooperate and share responsibility in regard to outer space will have so much at stake in its exploration and use that they will work harder to ensure that its peacefulness is not impaired by man's folly.

We are also pleased that the Scientific and Technical Subcommittee at its thirty-eighth session accorded priority in its agenda to the issue of space debris, and that it adopted the multi-year work plan formulated with a view to advancing consideration of this item. We also concur in the view that the Legal Subcommittee at its forthcoming session should proceed with its consideration of legal issues relating to space debris.

My delegation wishes to reiterate its full support for the Brazilian-initiated working paper on principles regarding international cooperation in the exploration and utilization of outer space for peaceful purposes. As one of the sponsors of the paper, we wish to emphasize that it is the desire of the Philippines, as one of the developing nations, to set up mechanisms, legal and institutional, to redress existing inequities between technologically advanced space-faring nations and technologically disadvantaged non-space-faring nations. The elaboration of principles of international cooperation in outer space is one of the

priority mechanisms that must be put in place for the benefit of all.

On the issue of access to the geostationary orbit, the Philippines has always held the view that since this is regarded as a limited natural resource it must be utilized in a rational and equitable manner for the benefit of all mankind.

We wish to underscore that we regard it as essential that in arriving at a satisfactory resolution of this issue delegations display the political will to enshrine in an appropriate legal framework the principle of equitable access for all countries to the geostationary orbit.

Mr. Halatchev (Bulgaria): The Bulgarian delegation would like to say how pleased it is that Mr. Peter Hohenfellner, the representative of friendly Austria, is chairing the Committee on the Peaceful Uses of Outer Space. We are convinced that under his skilful guidance the tasks of the thirty-eighth session of the Committee will be successfully accomplished. I should like also to congratulate the representative of Romania, Ambassador Dumitru Mazilu, on his election to the post of Vice-Chairman. We are grateful to the Director of the Office for Outer Space Affairs, Mr. Jasentuliyana, and his colleagues for their hard work on behalf of the Committee.

My delegation appreciated Mr. Hohenfellner's very informative introductory statement, which laid an excellent basis for our deliberations.

This session is taking place on the eve of the fiftieth anniversary of the United Nations. As an integral part of the Organization, the Committee on the Peaceful Uses of Outer Space has played an important role in promoting mutual understanding and cooperation between States in the field of outer space activities. Working on the basis of consensus, the Committee has contributed to the harmonization of the different views and interests.

The end of the cold war has given new momentum to and opened broad perspectives for international cooperation. This will increase the importance of the Committee and its subsidiary bodies. Bearing in mind the Committee's ever-increasing role, we consider an examination of its methods of work, with a view to increasing its effectiveness, to be essential.

My delegation commends the useful work done by the Scientific and Technical Subcommittee and by the Legal Subcommittee at their last sessions.

The Republic of Bulgaria has been an active participant in space research for more than 20 years. Over the last several years there have been a number of changes in the organization of space research necessitated by the new political and economic situation in the country. The painful transition from a centrally planned to a free-market economy and the severe economic crisis, combined with the enormous damage to the country's economy as a result of strict implementation of the sanctions against the Federal Republic of Yugoslavia (Serbia and Montenegro), have seriously impeded the realization of national space programmes. This has necessitated urgent steps to preserve the country's scientific and technical capabilities.

The Bulgarian AeroSpace Agency (BASA) was established on the basis of the experience of the leading space nations and the advice of the United Nations Office for Outer Space Affairs. BASA has gathered strength, establishing a number of useful contacts in the course of just a year. Agreements on cooperation with the Russian Space Agency have been signed, and negotiations have been conducted with the German Space Agency, as well as the space agencies of France, the Netherlands and Norway. The exchange of ideas with representatives of the United States National Aeronautics and Space Administration (NASA), the Austrian Space Agency and the European Space Agency (ESA) was extremely useful. We hope to join in future ESA programmes, which would help to bridge the technological gap between us and the member States and would provide a basis for advanced technological research. The European Space Agency is an element of the European integration process, in which we wish to play a part.

In May this year an agreement was signed between the Governments of the Republic of Bulgaria and the Russian Federation on cooperation in the field of the exploration and peaceful uses of outer space. This agreement envisages cooperation in the fields of land-based infrastructure and space systems for remote-sensing of Earth and monitoring of the environment, observation of global changes from outer space, telecommunications, navigation, manned flights and other matters.

We are convinced that through broader joint efforts Bulgaria will preserve and further develop its scientific and technical capabilities in space research and applications. At the same time, we believe that it is through joint activities that we can best contribute to the advancement of space science and technology for the benefit of all States.

Bulgaria has been taking an active part in the international INTERBALL project — launched in 1995 — for studying the physical mechanisms of the transference of the solar wind to the magnetic field of the Earth.

Long-term experiments with the Bulgarian biotechnological system Greenhouse SVET-2 have been included in one of the most prestigious international programmes — MIR-NASA — for the period 1995 to 1997.

Bulgarian space equipment is also included in the future international project Mars-96 — radiation measurements of the environment of Mars with RADIUS-M and the magnetometer ELISMA — as well as in the Mars-98 project.

I should like, in conclusion, to assure the Committee that Bulgaria is ready to continue its contribution to strengthening international cooperation in the field of the peaceful uses of outer space.

Mr. Roux (South Africa): My delegation also wishes to congratulate you, Sir, on your appointment as Vice-Chairman of the Committee on the Peaceful Uses of Outer Space. We trust that your term of office will be both fruitful and gratifying to you.

For South Africa, it is indeed a great honour to have become a member of the Committee on the Peaceful Uses of Outer Space and to take part in the activities of such an important United Nations body. Needless to say, our membership was made possible mainly by the far-sighted decision to enlarge this Committee. My delegation is pleased to thank the Chairman, Ambassador Hohenfellner, and those other representatives who have expressed kind words of welcome. We also take this opportunity to register our appreciation to the Office for Outer Space Affairs for its programme of activities, as reflected in Mr. Jasentuliyana's report to this session. Indeed, we look forward to a productive and fruitful engagement with the Office for Outer Space Affairs and COPUOS in the years to come.

Since this is our first participation as a permanent member of the Committee, may I also take this opportunity to share briefly with members specific areas of our space programme. Though our own space programme is rather modest at present, the spin-off and direct benefits of space-related activities are very important to us and our subcontinent.

From the earliest days of man's entry into outer space, South Africa has supported the need seen by the United Nations for a suitable regime to govern mankind's activities in outer space. We have also been involved in providing telemetry and command services for a great many United States National Aeronautics and Space Administration (NASA) and Centre National d'Etudes Spatiales launches. One of our leading universities, Stellenbosch University, is in the final stages of building a micro satellite, the SUNSAT Project. We have negotiated with NASA for the launching of that satellite on a NASA launch vehicle in the latter half of 1996. Unfortunately, the Greensat project, of which a number of representatives here are aware, has been shelved for financial reasons.

South Africa also has good launching facilities available. Several countries have shown an interest in making use of it for various launching activities. As South Africa has not hitherto had a programme involving the launching of space objects, a South African space agency has never been established. Once it became apparent that we had the necessary expertise and that plans to build South African satellites were under way, legislation was passed in 1993 providing for the establishment of a South African Space Affairs Council. This Council is at present in the process of being established and will perform the function of a registering and regulating body and a source of encouragement for space-related activities in South Africa.

South Africa's support for international space activities has been demonstrated by its signature and ratification of the principal international space agreements. My country has, for example, signed and ratified the outer space Treaty and the rescue Agreement. South Africa is also at present in the process of preparing to ratify the liability Convention and to accede to the registration Convention, which should ensure that our relationship with the international space community is put on to a sound footing.

I am providing this information on our internal arrangements and legislation in order to give an indication of the significance my country attaches to space-related activities. This includes remote sensing, with its significance for effective planning and assessment in so many fields of human endeavour, communication via satellite links, astronomy, astrophysics and the aerospace industry.

Since the question of the possible holding of a third UNISPACE conference has been raised by the Chairman and several delegations, I would like to share South Africa's views on this issue with this Committee. Our

views are defined by the question of the benefits to be gained from such a conference, especially by developing countries, given that, since the last UNISPACE Conference, in 1982, a number of new members have been added to COPUOS, some of them developing nations. A third UNISPACE conference would be an ideal opportunity for these new members of COPUOS, together with those not represented on the Committee, to articulate new objectives, reflecting the new, diverse needs of humankind in a dramatically changed international and rapidly developing technical environment. It is thus most important that a third UNISPACE conference have the clearly defined objective of providing benefits to the whole world and the developing nations in particular, with a well-defined agenda giving substance to those objectives. With this proviso, South Africa in principle supports the holding of a third UNISPACE conference in a developing country.

We share the Chairman's sentiments on the need to speed up the decision-making process within the Committee. Consequently, we would encourage the examination of creative approaches to expediting the workings of the decision-making process of the Committee. This suggestion is in keeping with the rapidly changing nature of the scientific and technological characteristics of space activities.

On the question of space debris, South Africa shares the feeling already expressed by other delegations on the growing need to establish a legal framework. It is therefore the view of the South African delegation that the question of space debris should be included in the agenda of the next session of the Legal Subcommittee as a matter of priority.

South Africa, as a member of COPUOS, stands ready to cooperate with countries in southern Africa, in the Africa region and indeed throughout the world to leverage the peaceful uses of outer space to the benefit of all peoples and countries of the world. We take this challenge seriously and are sure that this session will also commit itself to these ideals.

Ms. Skoog (Sweden): Let me first join previous speakers in welcoming you once again, Sir, as Chairman of the Committee on the Peaceful Uses of Outer Space. Your continued chairmanship provides an important element of continuity in our work in this Committee.

I should also like to use this opportunity to welcome the new members of COPUOS. An enlargement was overdue, and my delegation hopes that the active participation of the new members will enrich our deliberations. Furthermore, it is our hope that the spirit of cooperation will guide us in our work this week and next.

During this meeting of the Committee, we will have the opportunity to discuss a number of important issues. I will briefly state the views of my delegation on a few of these.

We welcome the important progress achieved during the last session of the Scientific and Technical Subcommittee, in February this year. In particular, the issue of space debris was carried forward by the adoption of the multi-year work programme. As my delegation has stressed on other occasions, the thorough scientific assessment now to be undertaken will enable us to develop a common understanding and an appropriate definition of the problem of space debris. We believe that this is a necessary prerequisite to a decision on further action to be taken. During this endeavour, we should also draw upon the work already carried out in this field by national and international space agencies.

Furthermore, in the initial preparations for a possible third UNISPACE conference progress was made with the identification of basic elements for an indicative agenda. Although our work was of a preliminary nature and there is a need for further consideration and refinement, we believe that it could constitute an important basis for our future deliberations. In the view of my delegation, the main theme should be that of global access to space technology. In this respect, a third UNISPACE conference could contribute to highlighting space applications in support of environmental control and disaster mitigation. We look forward to participating in the discussions on this issue that will take place under agenda item 5.

In the Legal Subcommittee, we noted with satisfaction the breakthrough in the discussions on space benefits. It is our hope that this new momentum will enable us to advance substantially, and we look forward to a successful conclusion of this agenda item in the near future. Regrettably, the same cannot be said of some of the other matters at present on the agenda. Alternative ways of dealing with these subjects should be further explored.

The United Nations Programme on Space Applications contributes in an important manner to increased knowledge and access in the field of space applications. Sweden continues actively to support the Programme by jointly organizing remote-sensing training courses in Stockholm and Kiruna. The fifth course, with 27 participants, closed last week. Sweden also supports a number of bilateral

projects to promote the use of space applications through Earth observation and mapping of natural resources.

In order to increase the relevance of the work in Committee and its Subcommittees, it is important to strive to enhance its efficiency. We welcome the improvements made through better matching of Subcommittee sessions to their agendas. Time and efforts could also be saved, when embarking on new subjects, by setting up deadlines for their conclusion and, of course, by avoiding duplication of work to the greatest extent possible. However, saving resources is not an end in itself. We must also show a readiness to take on new tasks and challenges when need arises.

I am delighted to confirm to this Committee that, as the Chairman mentioned in his opening statement the day before yesterday, the Swedish mini-satellite Astrid was launched from Plesetsk in January this year. Despite some initial problems, we have managed to keep the platform facilities fully operational. However, part of the payload is out of order owing to power failure. In spite of this, Astrid has already delivered interesting data, *inter alia*, on the northern-light phenomenon, and is now testing various equipment for communications, solar-power cells and directional attitude control. We look forward to sharing future results from this mission with the Committee.

Mr. Louet (France) (*interpretation from French*): As this is my first statement at this year's session, I want to begin by saying how pleased I am that Ambassador Hohenfellner has been elected Chairman of the Committee.

My delegation comes to this thirty-eighth session in a constructive spirit, despite our mixed feelings about the break in consensus during the General Assembly's debate on the peaceful uses of outer space. In the end, the Assembly was unable to adopt unanimously the draft resolution authorizing the expansion of this Committee from 53 to 61 members, although such unanimity has been traditional. This break of consensus sets an unfortunate precedent for future discussion, and we sincerely hope it will prove to have been an exception that will not occur again. This in no way detracts from my warm welcome and congratulations to the new members of the Committee.

My delegation hopes that our deliberations will be rich enough to yield specific proposals in the Committee's annual report to the General Assembly. As members know, my delegation wishes to play an active role in discussions dealing directly with space activities. In that connection, my delegation will make a modest effort to improve the Committee's working methods by following a suggestion made last year in the Committee and not describing France's space activities over the past year. We have prepared and made available a written report on that subject.

The first agenda item on which I want to touch relates to space debris. The Scientific and Technical Subcommittee considered this item under satisfactory conditions. It considered

> "relevant studies, mathematical modelling and other analytical work on the characterization of the space debris environment" (*A/AC.105/605, para. 75*).

The Subcommittee had agreed that at this session it was to

> "focus its attention on the subject of the acquisition and understanding of data on the characteristics of the space debris environment, with a view to establishing a common understanding that could serve as the basis for its further deliberations". (*ibid., para. 76*)

The French delegation made a scientific presentation on this item at the last Subcommittee session. A programme of work was adopted for the period 1996 to 1998.

As members know, we do not favour a priori consideration of the drafting of legal standards unless such consideration is preceded by in-depth analysis of the data or the problems and by assessment of experience gained in that field by countries with launch capability. That is why we still object to the presence of this item on the agenda of the Legal Subcommittee. Nevertheless, we are ready to give careful consideration to any constructive idea that could enrich our discussions in coming session of the Scientific and Technical Subcommittee, and to supplement its programme of work if necessary.

The possibility of convening a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) was given in-depth discussion at the last session of the Scientific and Technical Subcommittee. My delegation indicated that the question of the conference goals and agenda is of great importance, and in that connection we proposed a number of themes for possible study, to facilitate consideration by delegations. I shall not discuss this in detail at this stage.

Financial aspects of a third UNISPACE conference are another crucial factor; contrary to what is stated in paragraph 22 of our provisional agenda, it has hardly been

considered to date. As to a possible date for UNISPACE III, the Committee must bear in mind the provisions of paragraphs 25 to 29 of General Assembly resolution 49/34, which sets no deadline for a Committee decision on this matter, and especially the fact that there is no consensus on the very principle of holding a third UNISPACE conference. Many delegations, including my own, believe that the Committee and its Scientific and Technical Subcommittee should pursue parallel consideration of other ways to attain the same objectives.

With respect to space cooperation — "Consideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries", as it appears on our agenda — the present debate is based on two documents, each offering a different concept: a Brazilian text; and since the last session of the Legal Subcommittee a document submitted by the French and German delegations. Each has its own internal logic, and they are clearly different philosophically. This means that the summary document prepared by the Chairman of the Working Group on this item is unlikely to enrich our debate.

The Brazilian draft suggests the adoption of a set of legal principles. The Franco-German draft, underlining the advantages of bilateral or multilateral cooperation based on the free choice of partners and the area of activity, is at present in the form of a declaration. We intend to suggest that this text be annexed to a General Assembly draft resolution or that, with a preamble the text of which we will submit to the next session of the Legal Subcommittee, it should move towards the form of a resolution.

The last topic that I should like to deal with in this first statement concerns the working methods and the agenda of the Legal Subcommittee.

The Legal Subcommittee usually holds three-week sessions. This has been too long in the past two years, since the drafting of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space is nearly completed. The session could be shortened to two weeks, or less. Consequently, at the last session of the Legal Subcommittee, agreement was finally reached to shorten the session to two weeks.

In addition, informal consultations were held on the questions of working methods and the agenda. Their outcome, as reflected in the report of the Legal Subcommittee, is not satisfactory. Indeed, there is no consensus on the proposals put forward by certain delegations, particularly the new items to be included in the agenda. I believe that the outer space Committee should now exercise its authority over the Scientific and Technical Subcommittee and the Legal Subcommittee to put the discussions back on track. With its role as regulator and initiator, this Committee must have the final say in determining the items to be placed on the agendas of the two bodies under its authority. It is also our Committee's duty to make sure that the deliberations of both Subcommittees take place in an effective and coordinated manner. This afternoon, in fact, we will consider the question of methods of work. We must do so with the aim in mind of preserving our Committee's authority and ensuring that it fully shoulders its responsibilities.

No doubt this statement was too long, but I did wish to give the Committee immediately my delegation's views and opinions on the items on our agenda that I believe warrant particular attention.

Mr. Wicks (United Kingdom): My delegation would like to take this opportunity to express our satisfaction that once again, Ambassador Hohenfellner is Chairman of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) at this, its thirty-eighth session. We also congratulate the Vice-Chairman on his election.

My delegation will comment briefly on the Scientific and Technical, and Legal Subcommittees. We will give more detailed statements when substantive discussion takes place under agenda items 5 and 6.

First, as concerns the Scientific and Technical Subcommittee, we are pleased to note that agreement was reached on a multi-year work plan. Additionally, we are particularly satisfied that the issue of space debris has become a priority for the Committee's work. There is a need to understand and define the extent of this problem. But until we do so it would seem wholly inappropriate and premature to task the Legal Subcommittee with work on this issue.

Secondly, this year we saw a successful outcome to the outcome of the discussions of the Legal Subcommittee. The adoption of flexibility in its approach to the work in hand led to a more efficient, but no less effective, session.

We can all agree on the ongoing need to improve the working methods of the Committee and its Subcommittees. We should not be complacent in considering ways in which

this can be achieved, and we hope that further ideas will emerge from this session of COPUOS.

To conclude, my delegation extends its gratitude to Professor John Carver for his considerable contribution to the work of the Scientific and Technical Subcommittee. We also take this opportunity to express our gratitude to the Committee's Secretary and his colleagues in the Office for Outer Space Affairs Division for their support to the Committee and Subcommittees.

Mr. Khani (Islamic Republic of Iran): At the outset, may I take this opportunity, Sir, to join other representatives in expressing pleasure at seeing you again in the Chair of the Committee of Peaceful Uses of Outer Space. I wish you every success. My delegation remains confident that this Committee will be able to make significant progress under your guidance and diplomatic brinkmanship.

Along with the worldwide centralization of the international economy and regional realignments, the Islamic Republic of Iran's economy is thriving and prospering day by day. In this regard and in order to benefit from new approaches and technologies, the peaceful uses of space and its related technologies are of great importance for the country's overall development and are becoming more necessary due to their role in communications and data transmission, resource exploration, environmental monitoring, tele-education, telemedicine, weather forecasting and, finally, broadcasting radio and television programmes. Furthermore, special attention has been paid to space applications for environmentally sound and sustainable development, based on Agenda 21 of the Declaration of the United Nations Conference on Environment and Development issued in Rio de Janeiro, Brazil. In accordance with the two themes of development and environment, the Islamic Republic of Iran is also adopting certain new policies to appeal for international cooperation as well as collaboration among Asia-Pacific countries within the framework of coordinated projects of the Economic and Social Commission for Asia and the Pacific (ESCAP).

Consequently, a high-level delegation from the Islamic Republic of Iran, headed by the Minister of Post, Telegraph and Telephone, actively participated in the Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific Region, which was held in Beijing, China, from 19 to 24 September 1994. As the Minister clearly stated in his speech to the Conference, the Government of the Islamic Republic of Iran in its turn has paid special attention to different applications of space technology and is firmly committed to promoting the use of these technologies through technology transfer programmes and benefits for its own society resulting from these efforts. These efforts are currently under way through the expansion of networks required to cover all necessary steps. Furthermore, the Beijing Declaration on Space Technology Applications for Environmentally Sound and Sustainable Development in Asia and the Pacific recognized the competence of members and associate members to formulate, adopt and implement their respective policies on space-technology applications for development, mindful of their social, economic, and political conditions. It also reaffirmed that the members and associate members of ESCAP, in accordance with the recommendations of UNISPACE 82, have the right to the exploration and peaceful use of outer space and to the use of space technologies for their natural resources, environmental management and sustainable-development planning.

The space-related activities of the Islamic Republic of Iran, which are based on these goals and directives, can at present be summarized as follows.

Since the 1972 launching of the first earth resources satellite, Landsat-1, Iranian specialists have been actively involved in using space-acquired remotely sensed data for natural resources studies of the country, data which are subsequently instrumental in development planning. In this regard, the Iranian Remote Sensing Center (IRSC) is responsible for coordinating and supervising all national remote-sensing activities.

IRSC conducts specialized short-term training courses for mid-level managers and specialists from both the private and the public sectors. By now, 36 special courses have been conducted to train 820 specialists and managers. In addition to training courses, IRSC provides services such as: distributing satellite data — in different scales and formats, consulting, undertaking joint projects and providing support as required to its user community of more than 90 agencies involved in administration, research, education, development, planning and infrastructure-related activities.

Furthermore, nine different projects were carried out by IRSC at local, provincial and national levels, in addition to the application project for monitoring the country's renewable resources, which is in the final stages of planning by the Forest and Range Organization of the Ministry of Construction. The Islamic Republic of Iran's satellite ground receiving station at Mahdasht is notable as

the oldest station in the region. The station, which was established as long ago as 1976, failed to operate fully due to some technical and administrative problems. IRSC has devoted its efforts to overcoming the obstacles in order to upgrade this station and make it operational.

There are seven State-owned organizations in the Islamic Republic of Iran involved in Geographic Information System and Lightning Imaging Sensor (GIS/LIS) activities. While some organizations are using those systems for decision-making and resource management purposes, other agencies are integrating the data received for use in planning or research projects.

Satellite meteorological activities are carried out by the Islamic Republic of Iran Meteorological Organization (IRIMO). A satellite receiving station for Meteosat and for National Oceanographic and Atmospheric Administration (NOAA) Asia Pacific Telecommunity (APT) data is located in the forecasting section of IRIMO in Tehran. There are plans to upgrade the facilities in order to receive and process NOAA advanced very high resolution radiometer (AVHRR) data.

The Islamic Republic of Iran currently provides telecommunication services using some 3,000 international channels via three stations, located at Isfahan, Shahid Qandi and Bume-hen. The number of channels is projected to increase to 8,000 by the end of the second five-year national development plan for international communications. In this process, analog systems will be converted to digital technology by the International Digital Remote/digital circuit multiplication equipment (IDR/DCME) system. In addition to these facilities, the Telecommunication Company of Iran (ITC), which is affiliated with the Ministry of the Post, Telegraph and Telephone (MPTT), is presently using some 72 MHz transponders of the Intelsat Organization for domestic communication purposes, including seven provincial main stations and 54 rural ground terminals. In its second phase, this project will be covering a group of 17 main stations and 831 rural stations, and ultimately in its third phase it will cover 3,000 rural stations.

An affiliated agency of the MPTT, the Iran Telecommunication Research Center (ITRC), carries out research and development projects in the field of telecommunications at the national level. In this regard, a research project for the production of receiving antennas and equipment was successfully completed.

In order to broadcast radio and television programmes all over the country, Islamic Republic of Iran Broadcasting (IRIB) is at present using three transponders present on Intelsat VI and a ground segment of three stationary and one portable ground receiving stations. Eight hundred local receiving antennas were also installed in different parts of the country in order to broadcast television programmes and five radio network programmes to all urban and rural areas.

In addition to those points, a project for the use of news gathering satellites based on the use of two portable transmitters, each equipped with a 1.9 meter dish, as well as two International Maritime Satellite Organization (Inmarsat) "A" terminals, was implemented.

Another important application of space technology at present in use in the Islamic Republic of Iran is satellite navigation. In this regard, the Ministry of Roads and Transportation (MRT), through its Shipping and Ports Organization, is using Global Positioning Systems for activities such as rescue and relief operations and accurate positioning of marine vehicles. The MRT-affiliated National Civil Aviation Organization also benefits from the Russian Federation's Space System for Tracking Ships in Distress (COSPAS) and the United States Search and Rescue Satellite Tracking System (SARSAT) satellite to exchange rescue, relief and emergency information through present global networks with other related agencies around the world.

In addition to the activities I have already mentioned, the Global Positioning System (GPS), which was basically designed for navigation purposes, is also used by the National Cartographic Center (NCC) for a national levelling project and for triangulation networking objectives across the country and subsequent linkage with regional networks which themselves will be linked with international GPS networks. All criteria, standards and calculations considered are in accordance with the approved international standards of the Federal Geodetic Control Committee (FGCC). The GPS-related activities of NCC will be used for national 1:25000 scale mapping projects and geodesic surveying projects and, finally, for the determination of Iran's geoid and for accurate levelling projects.

Allow me to welcome the establishment of the proposed Centre for Space Science and Technology Education in the Economic and Social Commission for Asia and the Pacific (ESCAP) region. We hope that centre will be operational in the near future and will be able to make

use of the science and technology and relevant services of the other countries in the region.

The Islamic Republic of Iran is convinced of the importance of the application of space technology in the developing countries and reiterates its willingness to assist and cooperate with this centre.

In this context, I would like to mention a significant conference held in my country last month — the First Conference on Space Technology and Developing Countries. It took place in Tehran from 23 to 25 May. A short course by the National Cartography Centre, demonstrations by the Meteorological Organization and the exhibition of uplink and downlink satellite communication by IRIB showed the extent to which space technology is being applied in Iran. Moreover, the United Nations Office for Outer Space Affairs in Vienna and the Committee for Space Research offered their valuable support, which strengthened the international aspect of the conference, The presence of Mr. Lala and Mr. Camacho from the United Nations Office for Outer Space Affairs brought the conference the expertise of this Office. A rocket exhibition from Russia and a short course by Professor Tolyarenko helped the conference achieve its goal of international cooperation in a practical way. The active presence of a Russian astronaut, Mr. Atkov, also played an important role.

We remain confident that such conferences enhance international cooperation in outer space affairs.

Mr. Vaughan (Australia): As I speak for the first time at this session, I wish to welcome Ambassador Hohenfellner to the chairmanship of the Committee at its thirty-eighth session and to wish him success in achieving a productive session.

I have asked to speak under this item to acknowledge the appreciation expressed by a number of representatives for Professor John Carver's recently concluded chairmanship of the Scientific and Technical Subcommittee, and to thank them on behalf of Professor Carver. I am sure that John Carver will be most gratified to learn of these kind acknowledgements of his efforts, and I shall be pleased to convey them to him.

The Chairman: Let me add that I share the opinion of the representative of Australia regarding Professor Carver's contribution. I convey to him my best wishes and sincere thanks for everything he has done to promote the scientific and technical activities of the Committee.

I call on the representative of the European Space Agency.

Mr. Arets (European Space Agency (ESA)) (*interpretation from French*): I wish first of all to convey to Ambassador Hohenfellner our pleasure at seeing him presiding once again over the deliberations of the Committee. I take this opportunity also to congratulate you, Sir, on your election as Vice-Chairman The European Space Agency (ESA) hopes that the Committee's deliberations will be crowned with success.

In connection with item 8 on the agenda of the Scientific and Technical Subcommittee, I wish to note the active role played by the ESA in the area of space debris. We have convened a working group composed of ESA members interested in this problem, and has also represent Europe in an advisory group that also includes the United States, Russia and Japan, and that will soon include China. Experts from the Agency and its member States played a major part in establishing the three-year work plan adopted by the Scientific and Technical Subcommittee.

Moreover, the Agency, which currently operates the radar satellites ERS-1 and ERS-2, is making a major contribution to our understanding of the environment and to the development of new applications for remote sensing, the spinoff benefits of which are substantial, especially for developing countries. We shall be giving a presentation on the applications of the ERS-1/ERS-2 programme following the Committee's afternoon meeting on 15 June.

The Chairman's introductory statement noted — and the Director of the Office for Outer Space Affairs recalled — that the ESA participates actively and plays a major role in the United Nations Space Applications Programme. The Agency shoulders this responsibility on behalf of all its member States by participating in the activities of the Programme; to mention only the most recent activities, these have included the symposiums organized in May at Libreville, Gabon, and at Harare, Zimbabwe. The Agency has a number of activities under way to increase awareness in developing countries and among aid organizations of the usefulness of space technology for social and economic development.

Let me mention three examples. First, there is the African project of the Food and Agriculture Organization of the United Nations (FAO), which is aimed at providing

the continent with proper mapping devices. The remote-sensing satellite is obviously the most effective and least costly way to reach that goal. Especially in tropical and equatorial regions, where there is often heavy cloud cover, using radar satellites such as ERS-1 and ERS-2 is the ideal solution. Currently a receiving station of the German Aerospace Research Establishment (DLR) at the ESA's Ariane-programme station in Libreville, Gabon, provides multi-time coverage of these areas of central Africa. Along with FAO and the States concerned, the Agency has made every effort to ensure the effective use of the data.

My second example relates to South-East Asia. The European Commission and the ESA, in the context of an agreement between the countries of the Association of South-East Asian Nations (ASEAN) and the European Union, have financed the upgrading of the Bangkok station to receive remote-sensing satellite data and have joined with interested countries in commencing a series of pilot projects in Indonesia, Malaysia, the Philippines and Thailand; these will be completed by the end of 1995. Along with the ESA, the European Commission plans to propose that those countries develop the projects and ultimately make these systems operational. A symposium on "Remote sensing and the geographic information system (GIS) and natural-resource management" organized by Indonesian and European authorities and attended by more than 1,000 participants has just been held at Jakarta.

My final example is the COTOPAXI ground station in Ecuador, whose equipment could be upgraded through regional cooperation between the European Union and the Association of Andean Countries.

Those few examples testify to the concern of ESA members to ensure that the Agency's product is available — in good condition — to potential end-users, especially those in developing countries. Recently the Board of the European Space Agency unanimously adopted a resolution recognizing the Agency's role in that area, and inviting it to act in coordination with European agencies responsible for development assistance and with the European Commission in Brussels.

Let me say a few words about the Agency's programmes and activities. First, on launchers, Ariane-IV, after a failed launch in January, had last weekend its fourth successful launch in 10 weeks. Meanwhile, the Ariane-V launcher should become operational by late 1995, or early 1996 at the latest. The scientific satellites ISO, SOHO and the four CLUSTER models will be launched in coming months. The Agency's Horizon 2000+ programme will ensure the continuation of ESA scientific programmes. The Earth-observation satellites ERS-1 and ERS-2 will be followed in 1997-1998 by the ENVISAT satellite. In the field of meteorology, the agency is working with the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT) to develop a second generation of METEOSAT satellites and the first European meteorological satellite in polar orbit, METOP.

In the area of telecommunications, the experimental satellite ARTEMIS will be launched in 1997; the Agency is cooperating with the European Commission and EUROCONTROL to develop a navigation programme using United States Global Positioning System (GPS) and Russian Global Navigation Satellite System (GLONASS) satellites, along with the payload of the INMARSAT III satellites. This will lay the foundation for an international programme known as the second Global Navigation Satellite System (GNSS II), a programme in which Europe will participate actively from the very outset.

European Ministers will meet in the coming months and their principal programme decisions will focus on European participation in the international space station project. The Agency and its member States entered into certain commitments in 1988 in this regard. Since then a number of events have considerably modified the nature of these problems. The budget of the United States National Aeronautics and Space Administration (NASA) was reduced. Russia was invited to participate in the programme. There has been the recent economic crisis in Europe. All these factors have led us to reconsider the methods of European participation in this major programme. Our readiness to participate in it has been reaffirmed by the member States of the Agency, and it will now be for Ministers to define the ways and means and the general objectives of this participation. Participation in this major international programme is evidence of the European Space Agency's concern.

The traditional cooperation with the United States will continue, while cooperation is developing with Russia and Japan as well as with emerging space Powers such as India, China, Brazil and Argentina.

Finally, we hope to continue the cooperation that already is well under way with Canada. Canada has been participating actively for a number of years in several Agency programmes.

The Chairman drew attention to the fact that the Agency is commemorating this year its twentieth

anniversary. We believe that the part played by an organization such as ours — a model of international cooperation — is as justified today as it was in the past. This is evidenced by the demonstrations of interest on the part of a number of European countries not yet members of the European Space Agency. Two member States of the European Union — Greece and Portugal — have concluded or will soon conclude cooperation agreements with the Agency. Other European countries are actively cooperating with the ESA — Hungary, Poland and Romania. A cooperation agreement will soon be concluded with the Czech Republic.

The role of the Agency is also to strengthen cooperation between European countries.

I should like to assure the Committee once again that the European Space Agency will continue to make an active contribution to the United Nations space application programmes.

The Chairman: I call on the representative of the International Astronautical Federation.

Mr. Doyle: Permit me, Sir, to associate the International Astronautical Federation (IAF) with the statements of all representatives who have congratulated you on your election as Vice-Chairman of the Committee, and also to associate the Federation with all the expressions of satisfaction at the continuation of Professor Hohenfellner's direction of the Committee and the strong and efficient support provided by the Office for Outer Space Affairs.

I am grateful for this opportunity to present to the Committee some brief remarks concerning the IAF and its activities in cooperation with, and in support of, this Committee and its Subcommittees.

Established in 1951, the IAF is a non-governmental organization comprising 129 member societies institutions and corporations from 46 countries, both developed and developing. The IAF assembles meetings of experts on all aspects of astronautics and seeks to promote world peace and the application of space technology for the benefit of humanity. A principal suborgan of the IAF is the International Institute of Space Law, which convenes annual colloquiums on the law of outer space, in conjunction with the IAF annual international astronautical congresses.

The IAF works closely with this Committee, the Office for Outer Space Affairs and other organizations such as the European Space Agency and the Commission of European Communities to develop and cosponsor meetings and symposiums aimed at promoting cooperation between the developed and the developing countries. The IAF appreciates deeply the generous recognition of its work in this regard in Mr. Hohenfellner's opening statement and in the report Mr. Jasentuliyana presented to the Committee at the opening meeting of this session.

Representatives of the IAF have presented detailed accounts of our activities in the past year and we do not intend to repeat those details here, except to refer representatives to the IAF statements by Mr. Ernst Fasan before the thirty-fourth session of the Legal Subcommittee and the statement that our recently elected President, Mr. Karl H. Doetsch of Canada, presented to the thirty-second session of the Scientific and Technical Subcommittee.

The IAF, like many others here, regrets to note the decision of Professor John Carver of Australia to retire from his position as Chairman of the Scientific and Technical Subcommittee. After 25 years of outstanding, creative and constructive leadership in that body during an extraordinarily challenging period in this Committee's history. Professor Carver will be missed. We, like others, wish him well in his retirement.

To conclude, permit me to present to representatives here three brief notes of possible general interest in connection with the IAF annual congresses.

First, at the forty-fifth IAF Congress, on the theme "Space and Cooperation for Tomorrow's World", held in Jerusalem from 9 to 14 October 1994, Mr. Karl H. Doetsch of Canada was elected President of the Federation and will be serving for the biennium 1995-1996.

Secondly, the forty-sixth IAF Congress, on the theme "Benefits of Space for Humanity", will convene from 2 to 6 October 1995 in Oslo, Norway, and will feature again a special preliminary symposium for developing countries on developments in the areas of remote sensing and telecommunications.

Thirdly, the forty-seventh IAF Congress will convene in Beijing, China, in October 1996 and, in conjunction with all these congresses, representatives are reminded that the International Institute of Space Law convenes its annual colloquiums on the law of outer space.

We close our brief intervention by reiterating to you, Mr. Chairman, and, through you, to the Committee and to

Mr. Jasentulyana of the United Nations Secretariat our continuing desire to assist and support the work of the United Nations with regard to activities in outer space, in any constructive and appropriate ways we can.

The Chairman: We have heard the last speaker in connection with agenda item 3 — "General exchange of views" — and have thus concluded our general debate.

Ways and means of maintaining outer space for peaceful purposes

Mr. Zlauvinen (Argentina) *(Interpretation from Spanish):* As we said yesterday in our initial statement, the Argentine Government is firmly committed to the use of outer space exclusively for peaceful purposes because it is a unique resource to be reserved for civilian activities and for the progress of all mankind. That is why Argentina has adopted all the measures required to commit and direct all its space activity to this end.

Likewise, the Argentine Republic has acceded to the guidelines for control of the export of missile technologies and is taking an active part in the group of countries that maintain the same position. Similarly, our country's National Commission on Sensitive Exports maintains strict control over all Argentine exports in that sphere, including space technology. The objective is to ensure that they will not ultimately be diverted for military activities or for proliferation.

We strongly support the work carried out by the Geneva Disarmament Conference with respect to the prevention of an arms race in space, and we hope that positive results will be achieved within a reasonable time.

The Argentine Government has also acceded to the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, as adopted by the General Assembly, and has ratified the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies. We hope that the new prospects that have become evident on the world stage since the end of the so-called cold war will make it possible to achieve universal acceptance of these principles and to ensure, finally, that outer space is used exclusively for civilian and peaceful purposes.

In conclusion, we believe that it is essential to recognize that the most appropriate means of preserving outer space for peaceful purposes lies in ensuring active and flexible international cooperation, because such cooperation promotes trust between States and strengthens an environment of greater transparency with respect to space activities.

Mr. Navalgund (India): This agenda item has been under debate in the Committee for several years, and the Committee has a continuing mandate to consider it as a matter of priority. This indicates the importance the international community attaches to maintaining outer space for peaceful purposes. Notwithstanding the fundamental importance of the subject, we have been finding it difficult to make good progress collectively. This is due to the fact that the question is quite complex and, at the same time, delegations are divided on the scope and content of the subject-matter to be covered under the agenda item.

It is very important to recognize that there were several common positions — positions agreeable to the Committee as a whole — on this subject. Broadly, one such area relates to the measures that could strengthen international cooperation in the peaceful uses of outer space. Another agreed approach was to strengthen the role of this Committee in maintaining space for peaceful purposes, especially through its work in the scientific, technical and legal fields.

With regard to measures to strengthen international cooperation in the peaceful uses of outer space, a large spectrum of activities could be undertaken. There could be international projects in space, organized on a cooperative basis, to address needs common to all members. For example, in the field of protecting the Earth's environment and maintaining its long-term integrity, there are strong grounds for conceiving, encouraging and implementing projects that are strongly based on wider international cooperation.

Similarly, in the field of combating the effects of natural disasters, or forecasting and providing early warning of such occurrences, there is wide scope for international cooperative projects based on humanitarian considerations.

Another category of projects that could be strongly encouraged is those that cater to groups of countries with similar needs and priorities. Given the paucity of economic resources available to the space programmes of different countries, there have been severe limitations on resources available for implementing international cooperative projects on a voluntary basis. Hence, additional avenues for increasing international cooperation need to be created. The

Committee on the Peaceful Uses of Outer Space could consider focusing on a few important areas to promote greater voluntary cooperation between its members, areas that involve the common and priority needs of several members. Alternatively, a forum could be created to promote such voluntary cooperation. The key point is that high-level decision-makers should be made aware of the need for, and benefits of, such cooperation.

Another area that needs considerable attention is the identification of specific problems that could affect the peaceful uses of outer space. This involves the study and devising of effective measures to solve problems such as the crowding of space objects in certain positions of the Earth's orbit, the problem of collisions with space debris, the risks to the safe functioning of spacecraft operations, and the question of the safety of space flight. The Committee on the Peaceful Uses of Outer Space could play an important role in these matters. In the field of space law, our Committee needs to do further work on the elaboration of various treaties and agreements that have already been concluded, in the light of practical needs such as issues relating to intellectual property rights, sharing the benefits of space, principles for the exchange of data, and so on.

In conclusion, there are several ways for our Committee to consolidate further the areas of agreement it has already reached with respect to this agenda item.

Mr. Hodgkins (United States of America): As we prepare to set forth the views of the United States on agenda item 4, I think it would be useful to reflect for a moment on our discussions on this item since we first took it up in 1985, at our twenty-eighth session.

As members know, our business under item 4 concerns "Ways and means of maintaining outer space for peaceful purposes". That title was the product of intensive negotiations in 1984, culminating in the inclusion of the item on our agenda at the thirty-ninth session of the General Assembly. The title reflects a compromise worked out with the invaluable assistance of our colleague from Austria, Ambassador Peter Hohenfellner, who, we are pleased to note, chairs our Committee. The inclusion of this item marked the restoration of the consensus principle and the beginning of the long and sometimes arduous task of injecting new life into the work of the Committee on the Peaceful Uses of Outer Space (COPUOS).

Since that time, there has never been any specific agreement regarding the role that COPUOS should play in this regard. Despite this lack of agreement, however, I believe it is accurate to say that this 10-year-old compromise, and the often-inchoate discussions we have had under its rubric, have produced measurable results in the process of revitalizing COPUOS and its Subcommittees. This has been reflected in the establishment of a Working Group on the implementation of the recommendations of UNISPACE 82 in the Scientific and Technical Subcommittee; the addition of new items to the agenda of that Subcommittee; the impetus for the final rounds of negotiations on remote-sensing principles; and the addition of the item concerning spin-offs. All of those developments have their origin in item 4. Indeed, another indication of the success of our efforts is the growing relevance of our Committee's work to the international community more generally, as shown in part by the steady increase over the past few years in the number of other intergovernmental organizations, as well as non-governmental organizations, that seek to participate in the Committee's work.

On the basis of discussions under this item, the Committee also concluded that strengthening international cooperation in the peaceful exploration and use of outer space implied the need for the Committee itself to improve, whenever necessary, the methods and forms of its work. We hope that, whatever political differences delegations may have on certain issues, we can continue to move forward in this area of our work. It is a vital process that must continue if COPUOS is to function effectively in the future as a vigorous advocate within the United Nations system for international cooperation in outer space. And, in our opinion, it represents the only realistic and tangible manner by which COPUOS can execute faithfully its mandate under agenda item 4.

That is why the United States is pleased to see the progress made by the Legal Subcommittee at its last session towards improving its methods of work and that we will be meeting as a working group of the whole to consider how we organize our own work. What we seek is a process of cooperation and dialogue between Member States that could lead to a clear vision of the Committee's course of action for the remainder of this decade and beyond.

Here I would add that we are convinced that no part of that vision would include a role for the Committee in verification or any other aspect of disarmament, as some delegations propose. Rather, the United States continues to believe in the wisdom and validity of the General Assembly's conclusion at its thirteenth session, in 1958, when establishing the ad hoc COPUOS, that our Committee is concerned exclusively with promoting international

cooperation in the peaceful uses of space. The First Committee of the General Assembly and the Conference on Disarmament are the competent multilateral forums for discussion of the disarmament aspects of outer space.

There is no doubt that the utilization of space technology to solve problems on Earth must be considered in a global perspective, particularly as related to the protection of the environmental quality of the world's land, oceans and atmosphere. But regional cooperation continues to hold great promise. Perhaps we should dedicate our efforts under this agenda item to exploring how the Committee could use its resources and expertise to take full advantage of the potential for regional cooperation to meet specific regional needs. We might also consider under this item ways in which the Committee could promote greater international cooperation in the use of space systems for the early warning and mitigation of disasters and global search and rescue activities.

Before concluding my remarks, I believe it is fitting to note that we are meeting on the eve of the twentieth anniversary of a real milestone in international space cooperation. On 17 July 1975, the Apollo and Soyuz spacecraft docked, making history's first international manned space flight mission a reality. The unprecedented link-up, officially called the Apollo-Soyuz Test Project, was a mammoth undertaking, considering the ideological, political and cultural differences dividing the two nations. Technologies representing different origins and purposes had to be integrated. Training programmes, communications, launch and tracking requirements, crew activities, experiments — all had to be planned and coordinated. Mission control centres half a world apart had to be linked, and command responsibilities agreed upon.

Twenty years have passed, and the space programmes of the United States and Russia will again meet in Earth orbit when Space Shuttle Atlantis, on Mission STS-71, docks to the Mir Space Station later this month. This will be the fourteenth flight of Atlantis and the seventieth flight of the Space Shuttle system.

Atlantis will carry two Russian cosmonauts who will replace the Russian/American crew that has been aboard Mir since 16 March. That crew will join the STS-71 for the return trip to Earth. American astronaut Norm Thagard will come back with the American record for a single space flight, with more than 100 days in space.

The STS-71 mission is the first of seven planned Space Shuttle-Mir missions between 1995 and 1997, including rendezvous, docking and crew transfers. The 10-day mission will include joint scientific investigations providing a wealth of knowledge about the human body and the microgravity environment.

Mr. Nili (Islamic Republic of Iran): The end of the cold war and recent developments in the international environment have created new opportunities to improve global peace and stability. For more than a decade the Committee on the Peaceful Uses of Outer Space has been considering the item "Ways and means of maintaining outer space for peaceful purposes", and it is interesting to note that during this time its discussions have shown that various countries are concerned about the important issue of maintaining space for solely peaceful objectives.

In our view, it must be reiterated that space, as the common heritage of mankind, belongs to all generations, and in this regard international standards should be set for preventing an arms race in space. Transparency in space activities is a constructive step towards the prevention of an arms race. An arms race would endanger the safety and security of outer space and create obstacles to space cooperation between countries. In order to keep space free of an arms race, my delegation would welcome any initiative governing space activities for peaceful purposes.

In accordance with a decision of the General Assembly, the Conference on Disarmament in 1985 established the *Ad Hoc* Committee on the Prevention of an Arms Race in Outer Space to consider issues related to the prevention of an arms race in outer space. The discussion in that Committee has not produced significant progress in preserving outer space for peaceful purposes. The Committee's efforts should focus on issues designed to avoid the arming of outer space, because any problems in space would have harmful effects on all humankind.

In our view, the implementation of all proposals on maintaining space for peaceful uses will necessarily require greater coordination of activities among the various bodies of the United Nations. In this regard, my delegation attaches great importance to confidence-building measures and to improving access to space technology — matters dealt with by the Secretary-General in his report entitled "International cooperation in space activities for enhancing security in the post-cold-war era". A key element of cooperation in the peaceful uses of outer space is the expansion of the availability of space technologies and applications to enable all countries to benefit from them. Technical cooperation between Member States and assistance to developing countries in the use of space

technology require the active involvement of the United Nations. In our view, free access to space data, transfer of technology and strengthening of cooperation are among the issues on which developed and developing countries should work together to overcome their difficulties.

In conclusion, we reiterate the need to make it clear that the best means to conserve space for peaceful purposes is international cooperation and transparency in space activities.

Mr. Zaman (Pakistan): The item concerning the ways and means of maintaining outer space for peaceful purposes has been on the agenda of this Committee for the past 12 years. The subject was also discussed during the course of UNISPACE 82. Ever since, it has been one of the most controversial issues that has ever come before the Committee. In spite of the long debates which this item has provoked, very little seems to have been achieved by way of ensuring that all space-oriented activities are limited to peaceful purposes. My delegation considers that merely holding debates is not enough. The debates should lead to tangible results in the form of control over those activities in outer space which are not for peaceful purposes.

There is no denying the fact that it is in the United Nations Committee on the Peaceful Uses of Outer Space that most, if not all, matters pertaining to the uses of outer space are discussed, negotiated and formulated into treaties. In view of the seriousness of this issue, other United Nations bodies also deal with this subject. But this fact does not undermine the work of our Committee. As we all know, several space treaties have been formulated so far under United Nations auspices. In view of the fact that there is increasing interest in achieving greater transparency in space activities as a constructive move towards maintaining outer space for solely peaceful purposes, a number of new measures have been advanced in the recent past to foster the dissemination of knowledge on various technical problems and to prepare the political basis for proper negotiations, which also include the completion of a study on the specific aspects related to the application of various confidence-building measures in outer space. The report on the study contained recommendations with far-reaching consequences. One of the group's recommendations was that COPUOS also explore mechanisms for coordinating various international space activities. Representatives will also recall that a number of proposals have been submitted to the General Assembly or COPUOS about the possible institutional arrangements for monitoring and verifying any agreement on outer space.

All these efforts speak for themselves about the eagerness of humankind to keep outer space for peaceful purposes only, because this is not a problem of a State or States alone: it is a problem for all humankind. Let us face the various issues involved in this respect boldly and, bearing in mind the need to make optimum use of the limited time at the disposal of our Committee, try to make substantial progress in the matter. For this purpose, we will have to develop a strategy by formulating some terms of reference to initiate a constructive discussion on the various issues involved. In my delegation's view, this is perhaps the only way that can lead us to an agreeable solution to the various problems at issue.

Mr. Piso (Romania): I take this opportunity to express to Ambassador Hohenfellner my satisfaction and pleasure at attending this session of the Committee under his impartial leadership. I also express to my Ambassador, the Vice-Chairman of the Committee, Mr. Dumitru Mazilu, my congratulations on his election.

I also express my great appreciation to the secretariat for its success in carrying out the difficult task of organizing the 1994 and 1995 sessions of the Subcommittees and the Committee at the Office's new site in Vienna. Particular congratulations go to the secretariat for the quality of information management and for setting up the Office's Internet Home Page, the Internet Public Space Database. Taken as a whole, the work of the secretariat provides a meaningful model of how to manage complex space problems with a smaller investment; this should be considered by States that are still organizing their own space activities.

The Romanian space programme, coordinated by the Romanian Space Agency, reflects our explicit intention to keep space free from military uses and even to redirect some existing military facilities to peaceful space science, technology and applications. By extension, Romania considers as meaningful the major initiatives of the space Powers to convert military space technology to peaceful uses.

One aspect of this subject on which I should like to comment relates to the dual use of satellites, in particular for the delivery of remote-sensing data obtained from military observation satellites for generic or specific civilian uses. Regarding the possible dissemination of military land observation precision data, I would like to emphasize the potential uses of these data not only for purely civilian applications but also as a method of gathering specific

strategic and tactical information concerning the territory and capabilities of other States.

This is a powerful reason for keeping the Committee's attention focused on the necessity to formulate international rules on the dissemination of military satellite remote-sensing data acquired from the national territory of States. A general legal framework for the process of the dual use of military observation satellites should be established together with provisions for non-discriminatory access to the resulting information. It is clear that this Committee could be the appropriate body to manage such future problems.

Mr. Dzioubenko (Russian Federation) (*interpretation from Russian*): Russia continues to attach great importance to the item entitled "Ways and means of maintaining outer space for peaceful purposes". Yet we have the impression that in recent years the Committee's activities on that item have on the whole, unfortunately, been limited to a very general discussion. We consider that the question of maintaining outer space for peaceful purposes has been considered in a rather abstract way — although many members will remember the days when intensive and creative work in the Committee and its Subcommittees produced basic international legal norms for space activities and for the use of space for peaceful purposes.

What specific initiatives would move our work from the routine level on which we feel it now exists? These are difficult problems, without a doubt; views differ widely on the nature of future norms governing international activity in outer space. Hence, we think it is extremely important to emphasize areas of agreement, or at least areas on which positions are not in conflict. To that end, we think it would be most practical and effective to request States to declare their views on the question of maintaining outer space for peaceful purposes. In that connection, we suggest that the Committee prepare a questionnaire through which States could indicate their views on these problems. Such a questionnaire could be sent to members of the Committee over the signature of the Secretary-General; it would ask them to evaluate the existing international regime regulating space activities from the point of view of its consistency with the objective of maintaining outer space for peaceful purposes, and to indicate any possible future areas for rejuvenating such activities.

For example, the questionnaire could include such questions as these: Under the existing international legal regime for space activities can we ensure peace and law and order in space for the present and the near future and in the long term? What new international legal and other measures could be adopted in the near future with a view to maintaining outer space for peaceful purposes and to creating more favourable conditions for carrying out space activities? Is there a need to modernize existing universal agreements on space and to develop new ones? If it is recognized that new agreements are desirable, what direction should they take?

Of course, we do not claim that this is an exhaustive list of possible questions. We would welcome any additional ideas on the subject, such as those which have already been expressed today. In principle, however, I should like to note once again that such a survey of the various views of States would make it possible to open up the work of the Committee on this issue, initiate a pragmatic stage of concrete analysis and debate, and develop a practical and specific agenda based on the Committee's work in this respect. It would also make it possible for us to consolidate our work and concentrate on separate specific issues.

Mr. Sölendil (Turkey): As a party to the 1967 outer space Treaty, Turkey strictly honours its guiding principles, such as the fundamental principle that the exploration and use of outer space should be for peaceful purposes and should be carried out for the benefit of all mankind.

Within this framework, as we said yesterday in our general statement, we share the Committee's view that remote-sensing activities should take into account the necessity of providing appropriate and non-discriminatory assistance to meet the needs of the developing countries and that remote-sensing and analysed data — including data from operational meteorological satellites — should be made available to all countries at reasonable cost and in a timely manner.

Report of the Scientific and Technical Subcommittee on the work of its thirty-second session (A/AC.105/605)

Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space

Mr. Fulda (Germany): It had been our delegation's intention to speak on agenda item 5 tomorrow morning, but advancing this discussion in order to use the spare time we have this morning can, I think, be regarded as a contribution to implementing the principle of flexibility, which we try to adhere to for the greater efficiency of this Committee.

The Scientific and Technical Subcommittee has for many years had repeated cause to address the subject of space debris. Its successful work on nuclear power sources in outer space began as a result of this issue. The nuclear-powered Cosmos 954 satellite, which went out of control and crashed over Canada, was merely a special case of space debris — special for two reasons: first, because in that case pieces of debris failed to burn up in the atmosphere and thus reached the Earth's surface; and, secondly, because of the very specific threat of radioactivity.

This year, the general question of space debris has for the first time been inscribed on the agenda of the Scientific and Technical Subcommittee. The German delegation had called for this for a long time and, through the internationally recognized work of Mr. Rex, it has supplied major proposals regarding the logically structured work plan which the Committee will follow over the next few years. In fact, it should be sufficient at this time for the Committee to express its satisfaction at this development. In three years' time we can look at the Committee's final report and start to analyse this scientific report politically, determine the need for action and, if necessary, draw conclusions for our future work.

My delegation strongly urges its fellow delegations to keep strictly to this procedure. We cannot draw conclusions now from a discussion which has only just begun in the Scientific and Technical Subcommittee and which will not be completed for at least three years. Nevertheless, we note, with some irritation, that this procedure — the only reasonable and logical option — does not appear self-evident to all. Indeed, last year there were several individual voices here in the Committee which were somewhat unwilling to await the Scientific and Technical Subcommittee's findings before the Legal Subcommittee started to draft a new international legal instrument. There were even calls this year in that Subcommittee for space debris to be immediately placed on its agenda.

There is clearly a need for discussion here. I would like to use this statement not only to help initiate such a discussion but also to ensure that it is conducted in the most rational way possible, using political arguments. In doing so, I intend to speak neither in favour of nor against the conclusion of any kind of international agreement on space debris. On the contrary, my aim is to avoid premature and thus ill-conceived conclusions, to illuminate superficial arguments critically and to keep this Committee's decision truly open until the end of the scientific and technical discussions.

In the opinion of the German delegation, there is no automatic procedure in accordance with which an international treaty, or at least a catalogue of principles modelled on the nuclear-power-sources principles, must be drafted after the scientific preliminaries. We did not bring the scientific discussion before this Subcommittee in order to draft a subsequent legal agreement at all costs; our aim was, rather, to have a thorough discussion of the scientific and technical problems connected with space debris so that we might later assume a common stock of knowledge when discussing whether and, if so, what legal provisions were desirable.

For example, the scientific discussion might reveal that there are different categories of debris. The problems in geostationary orbits might look totally different from those in low-Earth orbits. Perhaps we must deal with radioactive space debris separately. How great is the danger, and who is under threat? Can the problems perhaps be solved without legal norms? To ask such questions is to warn against making premature commitments. There are some arguments that we regard as unconvincing. I shall deal with three of these here today.

Here is the first argument. Some people think that further hesitation is irresponsible. The next satellite crash, at the latest, will persuade everyone that a liability regulation must be drawn up immediately!

But such a regulation already exists in international law. The liability Convention regulates this case and, in our view, needs no additions. This argument sounds even less convincing when presented by delegations in whose countries the Convention has not yet entered into force or whose Governments have not even signed it.

The second argument is that there is already a draft of a space-debris agreement worthy of discussion — for example, the text drawn up by the International Law Association; that the Legal Subcommittee could begin negotiations on this immediately; and that all possible future findings by the scientists and technicians could not add much to the preliminary work done by the lawyers. Here, it is obvious that the future scientific work is being seriously underestimated and the legal preliminaries are being markedly overestimated. Those who carefully analyse the legal treaty draft will have great difficulty recognizing any new legal thoughts or principles beyond existing international law. And whoever has read the three-year programme of the Scientific and Technical Subcommittee carefully can no longer, in view of the complex nature of the problems, boast of being able to predict the result.

The third argument is that, instead of cutting the length of the Legal Subcommittee's sessions, we should keep this body gainfully employed. Space debris is the most sensible subject for this purpose. This argument is not only the weakest but also, unfortunately, the most commonly heard in this connection. My delegation has the highest regard for the historic achievements of the Legal Subcommittee. Here is the birthplace of the entire body of international law on space. For that reason alone we must refrain from abusing this Committee as a job-creation instrument. If we do not arrive at the political judgement, on the basis of thorough scientific preparation, that international regulation is required in this case, then we should not shy away from recognizing that the historical phase of international space legislation may have come to its end.

In our discussion of nuclear-energy sources in space we have concentrated on technical strategies aimed at avoiding future dangers. It could be — and I say once again that I in no way seek to pre-empt the scientific findings — that in three years we shall come to the conclusion that we should, above all, talk about strategies to avoid the future production of space debris. And it could be — again speaking purely hypothetically — that we would then find that industry already uses existing technologies voluntarily, without State pressure. For in space we have the unique situation that the parties responsible for the threat and the potentially threatened parties are almost identical.

This is a radically different situation from earthly environmental policy. State or private launchers of satellites or missiles, who alone cause the production of space debris, cause themselves damage if they do not take countermeasures. Here, of course, we are not speaking about debris that does not burn up in the atmosphere and, thus, falls to Earth, since this is an eventuality covered by the liability Convention.

As members of the Committee know, the greatest danger of space debris stems from explosions. Fuel left over in a missile upper stage becomes overheated; this stage explodes while in the same orbit as the satellite; there are collisions, causing further fragmentation; and a whole orbit is then full of debris. Professor Rex has very clearly illustrated these cascade threats in computer simulations. In this case it might be sensible to call for State regulation — for example, an international agreement. Instead, we are witnessing a highly interesting new development.

For some time now the European Ariane rocket has been equipped with a costly ventilation system for the upper stage, which evacuates spare fuel and thus prevents explosions. United States rocket producers have developed similar systems. These measures were initiated without any legal requirements and without any international treaties, and they entailed considerable investment. Why? Because the market demanded them. The Ariane customers want their satellites to be transported into space by a rocket that does not increase the dangers present in orbit and, thus, extends the statistical lifetime of the satellite. This is why Arianespace invests in safety for its customers.

The German delegation does not seek here to exclude the possibility that we shall none the less later come to recognize that we need a catalogue of principles, or indeed an international treaty, perhaps regulating only sections of the whole range of problems. But neither do we want to rule out the option that the problem can be solved by the free market. Our work here at the United Nations creates global transparency and awareness of the issues involved.

One possible way to conclude the work of the Scientific and Technical Subcommittee is to draw up a handbook in which the state of the art of today's technical options for mitigation would be portrayed. Could not such a handbook be deposited with the United Nations Secretary-General? This transparency would enable all States or companies engaged in space to judge for themselves how they could most effectively reduce the dangers to their own satellites or astronauts in a space station.

In no way do we want to imply that this is the only correct view. But we do reject the unfounded suggestion that we need not await the findings of one of our best think-tanks — the Scientific and Technical Subcommittee. Those who seek to have space debris discussed in the Legal Subcommittee will be obliged to state their reasons from now on. Why is a regulation needed? What are the facts behind the request? What is the objective? In our view, these questions will not be satisfactorily answered until we have before us the Scientific and Technical Subcommittee's final report. Until then, we should let this forum get on with its work in peace.

The meeting rose at 12.45 p.m.

United Nations

A/AC.105/PV.410

General Assembly

Official Records

Committee on the Peaceful Uses of Outer Space

410th Meeting
Tuesday, 1 August 1995, 10 a.m.
Vienna

Chairman: Mr. Hohenfellner . . . . . (Austria)

The meeting was called to order at 10.10 a.m.

Ways and means of maintaining outer space for peaceful purposes *(continued)*

Mr. Suárez Amezcua (Mexico) (*interpretation from Spanish*): There is no doubt that the item entitled "Ways and means of maintaining outer space for peaceful purposes" is one of the most meaningful on the agenda. No expert on this subject, whether at the scientific, institutional or academic level, can ignore the aspiration of the international community to explore and use outer space for the benefit of mankind, for peaceful purposes and under a legal regime acceptable to all States.

In this connection, it is useful to note that the Committee on the Peaceful Uses of Outer Space (COPUOS) has an important role to play through its scientific and technical and legal activities towards ensuring that outer space is maintained for peaceful purposes. My delegation is therefore convinced that COPUOS is in a position to get all States to aim their research, use and exploration activities in that direction. For that purpose, it is important for the Committee to foster the development of space law through the formulation, where appropriate, of international agreements regulating various space technologies with a view to promoting the consolidation of international legal instruments on space and to encouraging the conclusion of instruments that are now under formulation.

On several occasions we have noted the suggestion of a number of delegations that the Committee should complement its work by seeking a greater presence in other multilateral forums or in bilateral negotiations on space matters. The delegation of Mexico thinks these proposals are of value, and would add that the priority objective of this strengthening of the Committee's presence should be the prevention of an arms race in outer space. My delegation is convinced that COPUOS could make a valuable contribution to discussions and negotiations in the Conference on Disarmament, for the militarization of outer space would carry risks that together could block measures towards international cooperation in that sphere.

I wish in conclusion to reiterate my delegation's interest in the establishment of flexible and appropriate coordination machinery between COPUOS and the Conference on Disarmament, which would involve agreeing on a timetable setting out the time frames and pacing of progress in that direction. We understand the challenge this would pose for the Committee in terms of achieving agreement among member States on undertaking such an exercise. But we trust that COPUOS will be able to convene necessary meetings and to have access to additional resources such as studies, documents and technical and scientific opinions with a view to promoting the necessary first steps in this direction.

The Chairman: We have thus concluded our consideration of agenda item 4.

95-85639 (E)

V.95-57508

This record contains the original texts of speeches delivered in English and interpretations of speeches delivered in the other languages. Corrections should be submitted to original speeches only. They should be incorporated in a copy of the record and be sent under the signature of a member of the delegation concerned, *within one week of the date of publication*, to the Chief of the Verbatim Reporting Section, room C-178. Corrections will be issued after the end of the session in a consolidated corrigendum.

Report of the Scientific and Technical Subcommittee on the work of its thirty-second session (A/AC.105/605) *(continued)*

Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space *(continued)*

The Chairman: I call on the United Nations Expert on Space Applications.

Mr. Abiodun (United Nations Expert on Space Applications): Mr. Chairman, I am grateful to you for giving me this opportunity to address the Committee on the activities of the United Nations Programme on Space Applications during the Committee's consideration of agenda items 5 and 7 at its current session.

Members are all fully conversant with the expanded mandate of the United Nations Space Applications Programme, which directs the Programme to focus on the provision of long-term fellowships; the organization of training courses, workshops and conferences; the provision of technical advisory services; the development of indigenous capability at the local level; the provision of space information; and the promotion of greater cooperation in space science and technology. My present statement will highlight how we have translated the relevant directive of the General Assembly into practical activities within the 1994-1995 period. It will also provide an indication of the proposed activities of the Programme for 1996. Details of these activities are contained in my current report, document A/AC.105/595, which is before the Committee.

At the 1994 session I briefed the Committee on the progress we had attained in the establishment of the Centres for Space Science and Technology Education. We have moved from that stage to a new frontier. The procedures which we have adopted and which all potential host countries are familiar with are the following: the requirement of a formal indication to the United Nations Office for Outer Space Affairs by a Member State of its interest in hosting the centre in a given region; the organization of an evaluation mission by the United Nations Office for Outer Space Affairs and the participation of experts from outside the United Nations in each such mission to all interested potential host countries in a given region; the analysis of the mission report and identification of the host country by the United Nations Office for Outer Space Affairs; and the establishment of a governing board to assume all responsibilities for the centre once a host country has been identified.

We are still awaiting a number of specific significant details from Africa and the Middle East before we can identify the location of the centre in each of those two regions. The details we have requested include the role of in-country academic and research institutions in the work programme of the centre, a detailed financial plan by each prospective host country that will ensure the sustainability of the centre, and the plan of each prospective host country for inaugurating the centre and for ensuring that once established it will serve the overall interests of all the countries in the region concerned. Discussions on the establishment of a centre for the States members of the Economic Cooperation Organization (ECO) are in progress with the Government of the Islamic Republic of Iran.

As co-hosts of the Centre in Latin America and the Caribbean, Brazil and Mexico are working closely with the Office for Outer Space Affairs to establish and inaugurate this Centre at the earliest opportunity. This particular Centre will fulfil a major aspiration of this region, particularly in indigenous-capacity development.

Following the identification of India as the starting node for the Centre in Asia and the Pacific, the Government of India convened a planning meeting of member States in the region from 24 to 25 January this year at the headquarters of the Indian Space Research Organisation in Bangalore, with a view to planning the inauguration of this particular Centre. A draft agreement which will establish the legal status and statutes of the Centre was reviewed and modified by all the participants at that meeting. India has since forwarded this revised draft agreement to all the countries of Asia and the Pacific for their concurrence. Arrangements are now being finalized for the signing of this particular agreement.

We are now also developing a model curriculum for these Centres. The initial work on this curriculum was accomplished at the Workshop that was organized and hosted by the Government of Spain in Grenada in February and early March this year. The model curriculum that emanated from this Workshop is currently undergoing peer review. This finished model curriculum will provide each Centre with a benchmark of

the academic level necessary for international recognition. Thus, the international standard and character of the Centres should be preserved.

In addition to providing opportunities for each scholar to gain the necessary knowledge, research experience and application skills in his or her chosen area of space science and technology, the model curriculum also requires such individuals to complete an obligatory common programme at the beginning of their studies at the Centre. The successful completion of this initial obligatory programme, which is the same for all participating scholars, is a prerequisite to the enrolment of each scholar in his or her chosen field of study. This common model will provide all the scholars with an overview of the observation of the Earth and its environment from space and the use of data collected in such a process in atmospheric and terrestrial analysis. The common model will also expose the scholars to the physical principles of remote sensing; satellite orbital characteristics; operational sensor systems; satellite and ground-based communications; the impact of global-positioning satellites on the integration and construction of remote sensing and geographic-information-system databases; and the demonstration of selected environmental applications. The full text of the model curriculum for the Centres will be published before the end of this year.

In the area of long-term fellowships for in-depth training, the long-term fellowship programmes offered by the Governments of Brazil, China and the European Space Agency (ESA) are continuing. These fellowship awards are for studies in remote-sensing technology, with emphasis on research, applications and information systems; geodesy; photogrammetry; satellite meteorology; communications systems; and space antennas and propagation. The status of these offers is shown in annex II to my current report.

In the area of training courses, workshops and conferences, activities organized in 1994 in this category addressed, among other things, global change; application of radar data in the management of Earth resources; remote-sensing education for educators; space technology as a tool for accelerating national development; and the enhancement of scientific cooperation, particularly in basic space science, with emphasis on education, training and research at the national and international levels. Details of these 1994 activities are contained in documents A/AC.105/555, A/AC.105/581, A/AC.105/586, A/AC.105/588, A/AC.105/589, A/AC.105/594 and A/AC.105/596, and the activities are also summarized in paragraphs 37 through 64 of my current report.

In addition, the 1995 activities of the Programme have addressed and will address the development of model curricula for Centres for Space Science and Technology Education; the use of space technology to combat natural disasters, including the use of high-resolution satellite images for monitoring refugees under disaster conditions; the role of the atmosphere on human activities here on Earth, including the impact of human interactions with this medium; the monitoring of desert pollution, land degradation and desertification; and optical systems used in space exploration, with emphasis on atmospheric and Earth observations from space.

The proposals for 1996 are contained in paragraph 66 (a) through (h) of my current report. In this connection, it should be noted that the spin-off Workshop to be held in the United States and the Workshop on small satellites missions to be held in Spain, which were originally scheduled for 1995, have been rescheduled for 1996 at the request of both Governments. These two Workshops have also been upgraded and will be organized as conferences.

In the area of space information, in addition to the COPINE project — a satellite-based information system which I will address later in this statement — the Programme has issued the sixth edition of the Seminars of the United Nations Programme on Space Applications in document A/AC.105/584. This publication, which is now before the Committee, contains selected papers from the 1994 activities of the Programme.

We have also initiated steps to update the Directory on Education, Training and Research Opportunities in Space Science and Technology and its applications. In the immediate future, we plan to replace the Directory on Information Systems with a new Directory of Information Resources available on-line.

The Programme continues to enjoy the full support and cooperation of many countries and entities worldwide. The following member States, international organizations, agencies and entities provided support for the 1994-1995 activities of the Programme: Australia, Austria, Brazil, Canada, China, Egypt, France, Germany, Israel, Italy, Mexico, Norway, Pakistan, Peru, the Republic of Korea, Spain, Sweden, the United Kingdom, the United States of America and Zimbabwe, as well as the European Space Agency, the Commission of European Communities, the European Union, the International Mobile Satellite Organization, the

International Telecommunication Union, the United Nations Department of Development Support and Management Services, the International Centre for Theoretical Physics, and the Planetary Society.

I am also pleased to report that the Programme received $25,000 from the Government of Spain in support of the International Meeting of Experts for the Development of Model Curricula for the Centres for Space Science and Technology Education, which was held at the University of Grenada in late February and early March this year. The Programme also received $100,000 from the European Space Agency for the 1995 activities being co-sponsored by the Agency, as shown in annex III to my current report. The Government of the United States of America has also contributed $30,000 in support of the Conference on Spin-off Benefits of Space Exploration and Utilization to be held in the spring of 1996 in the United States. The Government of Austria also has just announced its contribution of $20,000 in support of the 1995 activities of the Programme. Brazil, China and the European Space Agency are also defraying the local expenses of candidates from developing countries that are participating in the long-term fellowship programmes described in paragraphs 16 to 20 as well as in annex II to my current report.

On this occasion, I wish particularly to thank all representatives here and their respective countries, organizations and agencies for their continued support of the United Nations Space Applications Programme. This support is crucial, even indispensable, in our efforts to improve the management of available resources, enhance global communications, and develop the necessary information-exchange infrastructure that could lead to improved quality of human life.

It is also appropriate that I offer my thanks to my colleagues within the United Nations system, including those in the regional economic commissions, who continue to assist the Programme on Space Applications to accomplish its objectives. To all my colleagues, both professional and General Service staff, in the Space Applications Section and the Committee Services and Research Section, as well as to Mr. Jasentuliyana, the Director of the Office for Outer Space Affairs, I offer my sincere thanks for the various contributions they have made, individually and collectively, in support of the activities of the Programme.

I wish now to touch on the manner in which the Programme has addressed the needs and aspirations of Member States, as directed over the years by this Committee and the Scientific and Technical Subcommittee and by the relevant General Assembly resolutions. These efforts of the Programme are also clearly in line with the recommendations and conclusions of relevant major United Nations conferences such as the United Nations Conference on Environment and Development, held at Rio de Janeiro in 1992, and the reports of the Secretary-General such as the Agenda for Peace and the Agenda for Development.

Specifically, the Programme is currently collaborating with the Department of Development Support and Management Services (DDSMS) and the European Space Agency (ESA) to implement a number of follow-up projects in Latin America and Africa. These projects have emanated from the ongoing Frascati Training Course series, which is jointly sponsored by the foregoing entities. They will address data acquisition, maintenance of software and hardware components, technical advisory services, preparation of technical documents, and organization of ad hoc training courses to support ongoing projects that could benefit from the use of such data for policy-making and improved management.

There is also ongoing cooperation between the Programme and the Junta del Acuerdo de Cartagena (JUNAC) and the Corporación Andina de Fomento (CAF) to establish a multi-national Andean enterprise (MAE). MAE will operate the COTOPAXI ground receiving station in Ecuador for all the countries that are within its coverage area. The feasibility study for the establishment of this enterprise is now in progress.

The Programme has also been closely associated with the Asia-Pacific Satellite Communications Council (APSCC) from its inception in 1992, through its gestation period thereafter, to its birth in October 1994 at Seoul, Republic of Korea. It should be noted that the Council was established to address a number of concerns within the Asia-Pacific region, among which are the following: the need to promote cooperation and harmonization in satellite communications development and utilization in the region; the need to promote the gaining of access to information by island States and to provide for better cooperation in the region; and the need to bridge the gaps between groups with competing interests, particularly those interested in such important issues as education, health care and welfare and those institutions and organizations that are mostly interested in the technical and business aspects of telecommunications.

According to its proponents, the Asia-Pacific Satellite Communications Council should champion the provision of satellite services to rural areas in the region and should also play a leading regional role on a number of technical and regulatory issues in order to achieve an integrated information infrastructure in the region. With the commitment of its members and the support of the international community, the Asia-Pacific Satellite Communications Council can assist the region in facing the opportunities and challenges ahead.

Since 1991, the Programme has been conducting a series of annual Workshops on Basic Space Science; these have addressed a variety of topics, including the worldwide development of planetary exploration, and astronomy, which are two items before this Committee. These Workshops focus particularly on education, research and cooperation as prerequisites for the development of space science and technology capabilities at the national, regional and international levels. Projects which have emanated from deliberations of these Workshops and which are enhancing regional and international cooperation include the following: the establishment of an astronomical telescope in Sri Lanka; the operation of an astronomical observatory in Honduras; the development of the Inter-African Astronomical Observatory on the Gamsberg in Namibia; and the upgrading of the Kottamia Observatory in Egypt.

In 1989, 156 nations joined in sponsoring a General Assembly draft resolution which proclaimed the period 1990-2000 as the International Decade for Natural Disaster Reduction (IDNDR). The Decade is expected to focus on the development and application of new technologies in the field of disaster management. In his 1992 report "An Agenda for Peace", the Secretary-General noted that drought and disease can decimate no less mercilessly than the weapons of war. So at this moment of renewed opportunity the efforts of the Organization to build peace, stability and security must encompass matters beyond military threats in order to break the fetters of strife and warfare that have characterized the past.

Like a physician who is looking for a preventive medicine or a fire department chief who is trying to develop a fire-prevention programme, the United Nations Programme on Space Applications has been contributing to the lessening of the environmental vulnerability of our planet Earth and the daily attendant environmental refugees. We cannot prevent earthquakes, floods, hurricanes and other identifiable natural hazards from occurring, but humanity has the knowledge and the capability to limit and control the harmful impact of these elements on its own survival. We are focusing the attention of the Programme on how space science and technology can contribute to the attainment of this goal, particularly in the affected countries. In this connection, we are addressing the capability of the technology that is needed and can be afforded at the local level to meet these needs, and the availability of these capabilities at the time and location of need.

Thus, beginning in 1991, the United Nations Space Applications Programme initiated a modest contribution in support of the IDNDR. In this connection, and in cooperation with the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Office of the United Nations Disaster Relief Coordinator (UNDRO), we organized a Workshop on the Application of Space Techniques to Combat Natural Disasters, which was convened at Beijing, China, in September 1991, for the benefit of Member States in Asia and the Pacific region. We organized, with the European Space Agency (ESA), a similar activity in Mexico in September 1993 and in Harare, Zimbabwe, in May 1995, for the benefit, respectively, of countries in Latin America and the Caribbean and in Africa. We are currently consulting with the secretariat of the IDNDR, the United Nations Department of Humanitarian Affairs and interested space agencies on how we can collectively bring the full weigh: of space science and technology to bear on natural-disaster mitigation, prevention and relief. Further progress on this initiative will be brought to the attention of this Committee and its Scientific and Technical Subcommittee in the near future.

As members are all fully aware, such terms as "electronic mail" and the "information superhighway" have become established aspects of our daily communication lives. Effective participation by developing countries in facilitating national, regional and international programmes requires that they gain reliable and unimpeded access to regional and global information networks and that they be able to use such systems to achieve their objectives. Indeed, information is now becoming the most important global commodity; through it, with the aid of satellite services, one can secure employment and new markets, and improve the health and education of any community, including particularly the rural areas. As the Committee was informed by the Director of the Office for Outer Space Affairs, a number of the activities of the Office, including those of the Space Applications Programme, can be found in the Internet Home Page of the United Nations Office at

Vienna; this Home Page can be located on computers by using the appropriate address, which will be provided to members in writing.

Moreover, inadequate exchange of information not only inhibits cooperation between nations, their scientists and their professionals but is also a major hindrance to national development, regional cooperation and global interaction. Without such a linkage and subsequent interaction, experiences are not shared, and a life-saving measure in one part of a country or a continent may never be known elsewhere.

In 1992, the United Nations Conference on Environment and Development, in Rio de Janeiro, recognized the undeniable and catalytic role of information exchange in development efforts. In its conclusions on science for sustainable development, Agenda 21, chapter 35, paragraph 35.22, the Conference proposed a number of activities for building scientific capacity and capability, and directed that efforts should be undertaken to develop, strengthen and forge new partnerships among national, regional and global capacities to promote the full and open exchange of scientific and technological data and information and to facilitate technical assistance related to environmentally sound and sustainable development. According to Agenda 21, this should be done through the development of mechanisms for the sharing of basic research, data and information, and the improvement and development of international networks and centres, including regional linking with national scientific databases, for research, training and monitoring. Such mechanisms should be designed so as to enhance professional cooperation between scientists in all countries and to establish strong national and regional alliances between industry and research institutions.

In line with the foregoing elements of Agenda 21, African professionals, at the United Nations Regional Conference on Space Technology for Sustainable Development in Africa, held in Dakar, Senegal, in October 1993, called for an improvement in the existing state of information exchange within Africa. This recommendation of the Dakar Conference has since been translated by the Office for Outer Space Affairs, within the framework of the Space Applications Programme, into a project called "COPINE" — a Cooperative Information Network Linking Scientists, Educators and Professionals in Africa — which focuses on the implementation of a satellite-based information system.

Initially, COPINE would immediately aim at improving the collection, transmission, distribution and exchange of information — particularly in such areas as health care, agricultural research and development, management of natural resources and the environment, education, and science and technology — within the international community. In any of the participating countries, the COPINE system could be developed to have the capabilities for electronic-mail services such as Internet and for voice communications, subject to local PTT approval. However, the primary focus of COPINE is the use of its wide-band capabilities to provide a variety of information-delivery services, particularly computer file transfer, interactive data transfer, document transmission, and imagery and video transmissions, including video conferencing, distant teaching and tele-medicine. These wide-band capabilities distinguish COPINE from wire services.

The project also will strengthen collaboration between and among African and international institutions, and thus provide a vehicle for the transfer of know-how and technology. Through COPINE, access to current global and regional scientific information and research results will provide needed nourishment for creativity and should sustain a critical mass of highly qualified scientists in African countries; indeed, it may also stem brain drain. Such information linkages among networks of professionals, scientists and universities at the regional and international levels should strengthen national capacities in the formulation of policy options particularly in the field of health care, food security, natural resources utilization, environment and education. If successful, this project can be expanded to all the African countries, and also replicated in other developing regions of the world.

The United Nations Development Programme Special Unit for Technical Cooperation among Developing Countries has expressed its interest in working with the Office for Outer Space Affairs to address the urgent need to establish an efficient communication network/linkage among African professionals and scientists at national and subregional levels. In this connection, the Special Unit and the Office for Outer Space Affairs are planning a joint mission to determine, as accurately as possible, the user requirements for the services of information exchange networks such as COPINE. We are also working through the European Space Agency to seek necessary financial support for the COPINE system.

As we look to the future and as we celebrate the fiftieth anniversary of the United Nations this year, 1995, let us not forget that one of its babies, the United Nations Space Applications Programme, will be 25 years old next year, 1996.

From its inception to its current level of activities, the Programme has undergone a number of metamorphoses. The most significant of these are the second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82) and its space applications-related recommendations, which were endorsed by General Assembly resolution 37/90 and which I restated at the beginning of this intervention. Since 1982, the Programme has faithfully complied with the letter of these recommendations. In addition, it has broken much new ground and has thus made itself relevant in addressing the needs of Member States, particularly the developing countries, which it was established to assist.

Specifically, and through a whole spectrum of activities in space applications, space technology and space science, the Programme has addressed national, regional and global issues that have been entrusted to it by this Committee and its Scientific and Technical Subcommittee. Some of these issues have also been articulated in a number of major United Nations conferences, including the Rio Conference in 1992 and the Social Development Conference in Copenhagen this year. The spectrum of activities in question includes those dealing with indigenous capacity and capability development through education and training, such as the centres for space science and technology education; disaster mitigation and relief; the development of small payloads in mini satellites; development and establishment of information exchange networks, such as COPINE; spin-off benefits of space exploration; understanding of the atmosphere and its impact on our daily lives; the establishment of essential infrastructure for the acquisition of Earth observation data and the corresponding use of such data in many facets of human lives; and the organization of many activities dedicated to regional cooperation, such as the establishment of the Asia-Pacific Satellite Communications Council and the organization of the Cotopaxi project.

When it was globally popular to focus attention exclusively on technology transfer, the Programme cautioned that technology transfer by itself cannot take place in a vacuum and that it can succeed only if the recipient country has imbibed a science and technology culture, through education and research. We also cautioned that it is not enough to know what a particular technology can do but that it is equally important to know how that technology works, and why it works the way it does. Today, this Committee can take credit for supporting the initiative to establish the Centres for Space Science and Technology as a way of addressing these critical development issues.

The workshops and conferences organized under the auspices of the Programme are constantly being adjusted to reflect the decisions of this Committee and the needs of participating Member States. These activities have also resulted in follow-up work that is not only current in its objectives but also very relevant to national and regional needs. The Programme has succeeded in motivating Member States to participate in a variety of space-related activities, including those that are organized by other entities. A case in point is the United Nations/Sweden Training Course on Remote Sensing Education for Educators, which is constantly over-subscribed; this year we received over 120 applications globally, for 27 available places. Similarly, this year, we received over 100 applications for the four ESA fellowships on remote-sensing information systems, remote-sensing instrumentation, space antenna propagation and communication systems.

While the work of this Committee, which is always reflected in the work of the Programme, includes international cooperation, we must always remind ourselves that today the global community consists of space-faring and non-space-faring countries — the haves and the have-nots. The United Nations Space Applications Programme and other similar entities offer a unique participatory opportunity to a number of countries, particularly the non-space-faring countries, to share in the direct and indirect benefits of space exploration, and equip them to effectively contribute to and participate in national, regional and international programmes in which space technology can play a meaningful role.

In conclusion, I wish to state that the level at which any programme, including the United Nations Programme on Space Applications, can function is dictated by the resources, both human and financial, that are available to it. Since 1982 the lion's share of the financial resources being utilized by the Programme to carry out its activities have come from voluntary contributions offered by a number of countries, as well as by some governmental and non-governmental organizations.

As we look to the future — particularly to the proposed UNISPACE III — we need to recognize that, as it has already demonstrated, the Programme is capable of addressing some of the space-application-related needs of Member States, especially the developing countries, and is able to respond to a number of relevant concerns that have been articulated in major United Nations conferences, as well as in the reports of the Secretary-General. However, if the Programme is to function in this manner it will need to be a bolder Programme — one that not only seeks cooperation with Member States and international organizations but can effectively support such cooperation arrangements as an equal partner. I hope that these concerns will be taken into consideration in the Committee's deliberations now and in the future.

Mr. Lessrad (Canada) (*interpretation from French*): My delegation does not intend to repeat the positions that it already expressed at the thirty-second session of the Scientific and Technical Subcommittee. Besides, having taken note of the report submitted for our consideration, my delegation finds it entirely satisfactory. At this stage I want simply to state my Government's position on one or two particular issues that appear in the Subcommittee's report and have been raised during this session.

First, let us look at the question of space debris. Like many others, my delegation attaches great importance to this issue. There is no doubt whatsoever that this phenomenon represents a growing danger for both satellites and other craft launched into space, but also for astronauts carrying out their activities there — not to speak of the risks to installations and individuals on the ground in the event of one of these craft re-entering the atmosphere and falling to Earth.

In this context, my delegation is pleased that at its last session the Scientific and Technical Subcommittee adopted a multiyear plan of work to guide its consideration of this phenomenon. That initiative will be linked with the parallel efforts of certain other national and multinational organizations that are also addressing the issue — and in this context I might mention the work of the United States national research centre, which should be producing a report in the near future, as well as the Committee on International Coordination, directed by the United States and involving certain other launcher States, and the European Space Agency.

We are sure that all these initiatives, when completed, will in the long term make it possible to improve knowledge of the scientific and technical aspects of space debris and will facilitate the implementation of specific measures to avoid the creation of new debris, as well as to minimize the harmful consequences of existing debris. Moreover, we note that several similar practical measures have already been adopted on a voluntary basis by various contributors, in keeping with the design and production of space craft and of the launch vehicles that put them into orbit. We vigorously encourage such efforts, in which, we are participating in many respects, and we hope that the greatest possible number of States or organizations concerned will subscribe to them.

In this context, my delegation agrees with many others that it is premature, for the time being, to ask the Legal Subcommittee to address this issue, particularly with a view to the preparation of applicable principles. Such an effort, if ever necessary, will certainly benefit from more detailed consideration by the Scientific and Technical Subcommittee and other bodies responsible for scientific and technical aspects of this phenomenon, as well as from the practical experience of States in this sphere. Our position will need to be re-evaluated, depending on the progress that is made.

I should like now to address the issue of the possible convening of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space.

My delegation has no objection in principle to the organization of such an event. On the other hand, we believe that more discussion is required with regard to the important question of the objectives or, in other words, the anticipated results of such a conference. In our view, it is absolutely essential that the recommendations that emerge from such a conference provide real added value — that is to say, that they can serve as a practical guide to facilitate increased international cooperation in the various spheres of the peaceful use of space, bearing in mind cooperation machinery already in existence. These recommendations should be focused and realistic, taking into account in particular the resources available for implementing them, and should meet the aspirations of the entire community. If these conditions can be met, and if such an event can promote better understanding between the countries interested in this issue, it will have been a success.

My delegation remains available to take part in further discussion of this question and to attempt to reach consensus, if possible during this session or in the near future, on the questions of the agenda, the venue, the level of participation and the funding of such a

conference — questions on which considerable progress has already been made.

Finally, we believe that it is also necessary to keep our minds open with respect to alternative methods of achieving the same result. After all, it is results that matter.

Mr. Velazco san José (Cuba) (*interpretation from Spanish*): I should like to express my delegation's satisfaction, Mr. Chairman, at your continued leadership of the Committee on the Peaceful Uses of Outer Space.

I want to refer briefly to some of the space activities developed in my country.

Cuba has established a Space Commission, which deals with space physics, medicine, meteorology, space information, remote sensing and other matters. Following the second Space Conference of the Americas, Cuba has been working on seven cooperation projects with other countries in the region, including Mexico, Chile, Jamaica, Argentina, Brazil, Colombia and Venezuela.

In spite of the "special period" situation that Cuba is going through, space activity — in particular, links with the projects that I have mentioned — has not slackened, although we have obviously been affected by a shortage of financial resources. None the less, research groups in our country have not been dissolved, and, although we cannot say that outstanding results have been achieved, we have made some progress and are maintaining activity and interest in the subject.

In order to provide a better idea of Cuba's work in space matters, let me give some specific examples.

Regarding the use of information provided by satellites for weather forecasting, climatic phenomena and the study of the oceans, the Cuban Meteorology Institute, in cooperation with Chile, Jamaica, Mexico, Argentina, Brazil, Colombia and Venezuela, has devised logarithms for automated predictions of tropical storms on the basis of geostationary satellite images. The system covers the Caribbean Basin, the Gulf of Mexico and the Atlantic Ocean. Software is being developed for determining oceanic temperature and chlorophyll, with applications for fisheries, marine ecosystems and the study of ocean currents.

A low-cost, integral air system is being developed for the study and monitoring of agricultural resources. The most outstanding results of these projects are the detection of water-logged areas and the formation of lagoons in rice-growing areas; the evaluation of dam-building for rice-growing; the determination of grass-infestation of citrus, rice and sugar-cane crops; the approximate determination of the productivity of the biomass; and the detection of plant diseases.

Work is also being done to develop an oceanographic remote — sensing system in the greater Caribbean and a geographic information system for the utilization of space information and the crystallization of scientifically and technically important substances in microgravity.

I wish to refer now to some of the Committee's agenda items. My delegation attaches special importance to item 4, "Ways and means of maintaining outer space for peaceful purposes". That is why it promotes international cooperation on space matters, provided that it is non-discriminatory and guarantees free access for all States, in accordance with the recommendations of the Second Space Conference of the Americas and the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space. We are also in favour of convening a third UNISPACE as soon as possible.

It would also be extremely beneficial if the results of the scientific and technical activities occurring internationally in the exploration and utilization of outer space were provided rapidly, accurately and equitably to all States, in the interest of all mankind. We hope that our discussions on this subject will lead to improved cooperation on the part of the developed countries with the developing countries in the transfer of space technology for monitoring the environment and conserving natural resources.

On items 5 and 6, on the reports of the Scientific and Technical and the Legal Subcommittees, we stress once again the need for strict control over objects with nuclear power sources that are launched into space. We also reiterate the advisability of defining and delimiting outer space, in conformity with the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies. It would also be most useful for space

technology to be applied as much as possible, in particular via remote sensing of the Earth by satellite or other aerospace means, with a view to developing ecological vigilance.

We take this opportunity to express our willingness to join the group of sponsors of working document A/AC.105/C.2/L.182/Rev.2.

Finally, we express our support for all those activities of cooperation in space that help to solve the problems of deforestation, desertification, the ozone layer, global climate change, and soil erosion and deterioration, which have such a great effect on the economies of our countries. Moreover, there is a need for greater access to technology and space applications, which should be transferred by countries that possess them to the developing countries without economic or political conditions. Preferential prices should also be set for developing countries, which should receive priority access to databases and information on their own natural resources and anything that contributes to the preservation of the environment.

Mr. Piso (Romania): Allow me to express to you, Mr. Chairman, our satisfaction and pleasure at attending this session of the Committee under your leadership, devoted to the development of wider international efforts to advance the peaceful uses of outer space. I would also like to thank you for this opportunity to address this distinguished audience.

My delegation regards the report of the Scientific and Technical Subcommittee as satisfactory and complete. We intend to make a few remarks regarding recent achievements in the framework of space activities in Romania.

Important statements and resolutions of the United Nations specialized agencies affirm the need to involve all Member States in space activities, special attention being given to the developing countries. This is the only way to guide space activities towards a cooperative effort among States, specifically, as a source of mutual benefits. Romania's full agreement with the necessity of cooperation to space progress is explicit, originating in a deeper understanding of the impact of space activities on economic and social development -- a requirement and goal for my country in this last decade of the millennium.

Space means globalization and integration. Access to space opportunities means, first of all, admission as an active participant in efforts to maintain and develop human civilization. Romania, after more than three decades of participation in space activities, within the limits of economic constraints, gives concerned attention to national progress in space applications, with the ongoing purpose of integrating its specific activities within the framework of international and global programmes.

It is important to emphasize the existence in Romania of some natural conditions favourable to the development of space activities of regional and continental interest. The territory of Romania is crossed from north to south by the chain of the Carpathian Mountains, which constitutes a representative environmental factor not only for Romania but for all neighbouring countries. Meteorology, ecology and local geophysics are directly affected by this configuration. It is necessary to point out that the curvature zone of the Carpathian Mountains is a significant active geodynamic area. The permanent monitoring of this earthquake generator, correlated with observations from other characteristic geographical sites of the European continent, will be improved by a Romanian Space Agency project to establish a test zone for space-based measurements.

Other natural advantages of Romania are the Danube Delta, organized as a natural biosphere reservation of European interest, and the Black Sea. Both zones benefit from space remote-sensing technologies under international cooperation.

The space programme in Romania, coordinated by the Romanian Space Agency, is focused on existing groups of specialists in some space fields, in particular basic space sciences, life sciences, space telecommunications, remote-sensing activities for resource management, environmental protection and meteorology. Those groups are mainly composed of representatives from a relatively consistent scientific and technological field of research, development and higher education institutions.

Direct financial support from the Romanian Government is oriented mainly towards research, development and educational space activities within the framework of the Romanian Space Programme to the year 2000. It is aimed at specific needs to optimize the management of national resources and capabilities, with a view to local and regional cooperation, and at the current need for integration in the emerging global and broad-based programmes on Earth monitoring and environment, science, development and education.

It is significant that the infrastructure to be improved in the context of the Romanian Space Programme has among its major objectives the development of a national space and aerospace information centre, which we hope will be functional in early 1996, and the establishment of a national system for education in space science, technology and applications, possibly to be correlated with regional educational activities developed in the framework of the United Nations Programme on Space Applications. As my delegation has previously stated, Romania maintains its proposal to host a regional Centre for Education in Space Science and Technology, and suggests that it could be developed together with neighbouring countries in the region in the framework of broad international cooperation.

It should be mentioned that Romania agrees that free access by the users to information is necessary, together with the development of regional and global information systems. However, there is some need for international rules on the dissemination of satellite data acquired from the national territories of States. We referred yesterday to the new concepts of dual military-peaceful uses of military satellites.

Following the recommendations of the United Nations Committee on the Peaceful Uses of Outer Space, the activities of the Romanian Space Agency are guided by the following direct purposes: first, to extend the technical and human infrastructure; secondly, to increase the participation of research laboratories and institutions of higher education in space programmes of interest to Romania; thirdly, to promote and sustain their evolution to a higher international level of performance; and fourthly, to develop capacity-building.

Research and development funding has been mainly oriented towards five main directions: basic space science; space structures and technologies; communications, information and education; Earth observation and remote sensing applications; and life sciences and medicine. In the spring of this year, a national initiative for competitive funding of new space research and development projects was organized by the Romanian Space Agency under the auspices of the Ministry of Research and Technology. As we stated before, the priorities have been given as: medium-term projects and initial studies with effective spin-offs for the national economy, defined by the Romanian Space Agency together with the users and those who benefit from results; and basic and advanced space research on restrained domains, sustained by international cooperation or by the leader position of the research group in the field. Special attention has been conferred on projects with educational and training impact. The topics of the selected projects include, *inter alia*, remote sensing applications, Earth and atmosphere monitoring technology, tentative experiments and techniques on board microsatellites and sounding rockets.

Real support for the orientation of space activities in Romania is provided by the European Space Agency (ESA); in 1992 ESA and the Government of Romania entered into an Agreement on cooperation in the peaceful uses of outer space. Remarks given by ESA specialists on topics addressed by the Romanian Space Programme have contributed to increased efficiency and to the integration of some projects into the proper international programmes. The ESA has also encouraged the Romanian Space Agency's subsequent good relations with other international organizations and national agencies.

Mr. Suárez Amezcua (Mexico) (*interpretation from Spanish*): As members know, the Scientific and Technical Subcommittee engaged in priority joint consideration of two important items: "United Nations Programme on Space Applications and the coordination of space activities within the United Nations system" and "Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space".

In that connection, my delegation hopes that in the near future greater resources will be provided for the United Nations Programme on Space Applications, or that innovative alternative ways will be devised for it to gain access to increased funding.

In its reports, the Scientific and Technical Subcommittee has various forms of wording, including simply noting that divergent positions were expressed in the consideration of various items. This is a cause of concern for my Government because it does not seem to take account of the determination and interest of States in fostering and stimulating negotiations leading to productive results on matters of common interest.

Another Subcommittee item relates to the use of nuclear power sources in outer space. During the recent Subcommittee session, delegations took note of the statement made by the International Atomic Energy Agency (IAEA) drawing attention to the latest developments in nuclear safety, particularly the International Basic Safety Standards for Protection against Ionising Radiation and for the Safety of Radiation Sources, jointly adopted by the IAEA and several other

international organizations, and the new document on Emergency Planning and Preparedness for Nuclear Powered Satellite Re-Entry.

Considering the great importance and unquestionable timeliness of these preventive measures, the delegation of Mexico notes that the publication and distribution of those documents would be not only appropriate, but most useful. This Committee should certainly consider the possibility of inviting the IAEA on a regular basis to report on and provide updates of its valuable contributions in this field.

A further contribution from the Working Group on this item would be welcome and appreciated. Accordingly, COPUOS could request the Group to continue providing information obtained from States on improving the scope and application of the Principles. To maximize the effectiveness of its work, the Group might think about concentrating on these activities, without being distracted or taking on new responsibilities that would distance it from the stated goals that would be assigned to it.

The chapter on space debris also has drawn the attention of the Subcommittee. With the support provided by the decision taken at its thirty-first session and endorsed by the General Assembly in resolution 49/34, the Subcommittee focused its attention on an analysis of the data on the characteristics of the space debris environment, as well as on the preparation of a multi-year work plan for consideration of this item. The programme includes the following: measurement of space debris; preparation of mathematical models of the space debris environment; risk assessment; and measures to reduce space debris.

In this respect, I should like to note that the Government of Mexico considers this programme satisfactory and appreciates it. However, it is convinced that COPUOS could ask the Subcommittee to consider less-generalized approaches on the same basis, and also that COPUOS should weigh the possibility that the other Subcommittee — the Legal Subcommittee — might consider and analyse the issue, without losing sight of the objective of producing a preliminary document on the risks connected with space debris.

As to the possibility of convening a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, I should like to recall — at the risk of sounding repetitive — that this has the backing of resolution 49/34 of the General Assembly, which agreed also that before the timing of the conference was determined, a recommendation should be adopted by consensus on its agenda, venue and funding.

In recent months, we have noted with appreciation that deliberations on this topic have been revitalized and that developments on it have become more dynamic. This became evident during the last session of the Subcommittee. We have taken due note that the drafting group established to collect proposals on the matter has submitted a document entitled "Questions relating to a possible holding of a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space". This document contains an indicative agenda that describes three central topics: first, possibilities of cooperation in space science, technology and research; secondly, applications of space science and technology to sustainable development; and, thirdly, intensification of international cooperation in the use of space technology and applications. The examination of each of these topics is assigned to a committee.

On other occasions, the delegation of Mexico has made known its view that UNISPACE III should be held soon, preferably in a developing country. However, the Mexican authorities also understand that the international community is going through a difficult period, caused primarily by economic problems — which the United Nations has not been spared, as is evident from the rationalization of its own resources. In view of this situation, my delegation feels that the timing of UNISPACE III could be determined at a later date, when it would be more convenient to organize a well-structured conference that would be fully accepted by all the States members of COPUOS. This would preclude the possibility of a too hasty preparation of the conference, partial participation or limited political will.

Mexico would prefer that the conference take place in a developing country, although we would not by this rule out taking into account the prevailing economic conditions and the advisability of using installations and services already available to the United Nations, which could mean significant savings for the participating States and the specialized agencies.

Finally, I take this opportunity once again to express my Government's firm support for the establishment of a regional centre for space science and technology education for Latin America and the Caribbean. My delegation is confident that this session could be a unique opportunity to conclude the pending negotiations to this

end. Furthermore, stressing the advisability of having United Nations support for the creation of various regional centres of this type, Mexico deems it appropriate to suggest that in a later report of COPUOS a paragraph be included that would demonstrate the support of the United Nations, through the Office for Outer Space Affairs, for the establishment of regional centres, in conformity with General Assembly resolutions 37/90 of 1982, 45/72 of 1990, 46/45 of 1991, 47/67 of 1992, 48/39 of 1993 and 49/34 of 1994.

Mr. Navalgund (India): At the outset, I wish to state that our delegation is very pleased to note the extensive work carried out by the Scientific and Technical Subcommittee during its thirty-second session. We would particularly like to commend the various technical presentations and also an informative and useful symposium organized by the Committee on Space Research (COSPAR) and International Astronautical Federation (IAF) on the special theme, "Applications of space technology for education, with particular emphasis on its use in developing countries". We also endorse the theme chosen for the next session, "Utilization of micro- and small satellites for the expansion of low-cost space activities, taking into account the special needs of developing countries". We consider that this subject is very important and contemporary. In addition, it is also relevant for several developing States, which are considering the acquisition of capabilities for developing or operating small satellite systems.

At its thirty-second session, the Scientific and Technical Subcommittee had an extensive debate on the subject of space debris. There were also significant contributions through the working papers and national reports from several delegations. It is noteworthy that a long-term work plan was discussed and adopted by the Subcommittee. The work plan for the following three years deals with, first, the debris environment and measures; secondly, modelling and risk assessment; and, thirdly, mitigation measures. All the three major branches are very important to the development of our common understanding with a view to solving the problem of space debris. We agree that this work plan should be implemented with flexibility. Several cooperative measures are essential to tackling the problem of space debris. These should include international efforts to ensure the availability of data, the development of a standard or universally acceptable model for debris environment, and research and exchange of knowledge on protection methods.

Turning to the question of the use of nuclear power sources in outer space, we find that there have been several proposals in the past on the approach to, as well as the scope for, review of the Principles adopted by the General Assembly. We note that after broad consideration the Subcommittee agreed that at the present time revision of the Principles was not warranted. Hence we urge that greater focus be accorded internationally to the implementation of the Principles in their present form until they are further reviewed. We also endorse the Subcommittee's decision to continue discussions on matters affecting the use of nuclear power sources in outer space and any contributions to improving the scope and applications of the Principles.

We would now like to draw attention to the questions of the implementation of UNISPACE recommendations and the holding a third UNISPACE.

We note that the Working Group of the Whole set up by the Subcommittee carried out an extensive examination of the United Nations Programme on Space Applications and of the status of the implementation of the recommendations of the last Conference. The United Nations Programme on Space Applications has been making important contributions to satisfying the needs of Member States, in particular the developing States, in several areas, such as the awarding of fellowships for long-term education, the holding of short-term training courses, workshops, conferences and technical advisory services, and the provision of international space information services. In spite of meagre resources, the Programme has contributed a great deal in several areas. Our delegation supports the proposed activities as contained in the report of the Expert on Space Applications in document A/AC.105/595 and recommended by the Scientific and Technical Subcommittee.

On the subject of UNISPACE, we note with appreciation the work carried out by the Working Group of the Whole. The detailed work carried out by the drafting group set up by the Working Group of the Whole is very useful in consolidating the common views on the opportunity, objectives and organization of the conference, in addition to its examination of the achievement of the goals set for the conference by other means. We would like to draw attention to the considerable discussions we have already had over the past several years on this subject. It would be fitting to

arrive at an early conclusion of this matter, by the end of this session. To that end, our delegation would be willing to work with all interested delegations to achieve speedy progress.

Mr. Vaslikovsky (Russian Federation) *(interpretation from Russian)*: I am grateful for this opportunity to inform delegations about the work carried out in the Russian Federation to ensure security in the use of nuclear power sources.

Current experience in the use of nuclear power sources in outer space is duly reflected in the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, which were drafted by our Committee as a result of long discussions and attempts to reach agreement in the Scientific and Technical and the Legal Subcommittees and were adopted by the General Assembly in resolution 47/68 of 14 December 1992. The consensus adoption of these Principles demonstrated the harmonization of opinions of States members of the Committee on this problem and their readiness to fulfil those Principles.

In this connection, in February this year Russia presented to the United Nations a working paper analysing the extent to which the requirements of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space were being applied. In that working paper, we address the current status of the problem of ensuring the safety of nuclear power sources in outer space, set forth ways and means of implementing individual provisions of the Principles, and deal with how consistent they are with existing practice and the requirements of national regulations.

Our experts have also submitted a report on the safety of nuclear power sources in outer space. This report considers the problems of ensuring both nuclear and radiation safety when using nuclear power sources on board spacecraft. The report describes the technical features of, and the safety systems and apparatuses for, radioisotope-type and reactor-type nuclear power sources as launched by Russia into space from 1965 to 1988.

The Russian Federation continues to present annual working papers on the results of calculations of the consequences of possible collisions between space debris and reactor-type nuclear power sources at orbits between 700 and 1000 kilometres. Our experts have also prepared a report entitled "Prognosis for the emergency re-entry of a spacecraft with a nuclear power source on board". The report sets forth principles relating to the emergency re-entry of such spacecraft and the method of work of the Special Interdeparmental Coordination Committee and analyses the experience gained from breakdowns on such satellites as Cosmos-954, Cosmos-1402 and Cosmos-1900. The report can be submitted for the Committee's consideration at any convenient time in the course of this session. Copies of the report in English are available in this meeting room.

Our country is continuing its research programme on the problems of the safety of nuclear power sources in outer space. One item of fundamental importance in this respect is research on and development of future systems for ensuring nuclear and radiation safety.

From 8 to 12 January this year the city of Albuquerque in the United States hosted a symposium on nuclear energy in space. The report submitted there and the discussion demonstrated the topicality of the use of nuclear power in certain space programmes and the unity of views on the problem of ensuring the safety of nuclear power sources in outer space as well as methods of solving this important problem. Currently, discussion is going on in regard to joint programmes for the use of nuclear power sources in outer space and the solution of the problems of ensuring their safety.

The Scientific and Technical Subcommittee, in its report on its thirty-second session, agreed that there is currently no need to review the Principles Relevant to the Use of Nuclear Power Sources in Outer Space. Our delegation considers this decision to be entirely logical, bearing in mind the almost total absence of any launching of spacecraft with nuclear power sources on board.

The successful carrying out of joint programmes on nuclear power sources in outer space will make it possible to ensure in the future that principles are formulated in the best possible manner, bearing in mind the different types of nuclear power sources and future criteria for ensuring safety.

The problem of ensuring the safety of nuclear power sources is also receiving due attention from legislative organs of the Russian Federation. In March 1995, the Ecology Committee of the Russian Federation's Parliament confirmed the topicality and importance for the State of the problem of technology-generated pollution, including radioactive contamination of near outer space. The Ecology Committee suggested the inclusion of questions relating to technically-generated nuclear contamination of space in the evolving federal

programme "Ecos-RF" being carried out by the Ministry of Atomic Energy of the Russian Federation, the Russian Space Agency and other leading institutions in this field.

The Ecology Committee has also supported the convening of an international conference on space exploration, power engineering and environmental civilization in 1996 in the city of Obninsk. The conference will be organized by the State Scientific Centre of the Institute of Physics and Power Engineering of the Ministry of Atomic Energy of the Russian Federation, the Central Scientific Research Institute for Machine Construction of the Russian Space Agency, the Central military space forces Scientific Research Institute of the Military Space Forces of the Ministry of Defence, and other leading institutes of the Russian Academy of Sciences.

Apart from all this, on the initiative of the Association for the Promotion of Space Science and Technology and the European Earth and Space Institute, in collaboration with the Russian Academy of Sciences, in October 1995 we shall be holding an international seminar at the Institute for Space Research in Moscow on the problems of the pollution of space.

Mr. Perek (Czech Republic): In the Scientific and Technical Subcommittee a work plan was adopted covering important issues of the subject of space debris. At the time, it was stated that the plan was flexible, and in this spirit we should like to propose a few additions.

In the first place, the work plan makes no mention of the specific situation in the geostationary orbit. Many non-functional objects have been left in that orbit. The inclination of their orbits is steadily increasing thanks to lunisolar perturbations. Consequently, these objects are passing through the equatorial plane with relatively high velocities, and a collision is very possible, which will result in more severe damage. In the second place, objects smaller than approximately one metre cannot be detected and their number and other properties are unknown. These matters concern our agenda item on space debris as well as that on the geostationary orbit. We would prefer to discuss these topics under the item on space debris. A few words could be inserted into the work plan to this end.

There is also the question of collisions of objects with nuclear power sources with space debris. We would also prefer to discuss that question under the agenda item on space debris and to have that reflected in the work plan.

Apart from the work plan, there is a more general question which surfaced at the session of the Scientific and Technical Subcommittee. A recommendation adopted by the 1993 Radiocommunication Assembly of the International Telecommunication Union (ITU) was presented in a conference paper. The recommendation called for the reorbiting of satellites from the geostationary orbit into disposal orbits before the termination of the active life of a satellite. This is in agreement with the policy of some launching agencies and is an idea expressed in the position paper on space debris published by the International Academy of Astronautics.

In our opinion, the idea should be supported, but it is an entirely new development, because this is the first time that such an issue has been considered in an international body outside this Committee. Shall we work independently of the ITU and risk coming to a conclusion in the future that is at variance with the opinion of the ITU, or should we envisage some kind of cooperation with the ITU on this matter? We propose that the Committee consider this question and express its opinion.

I would like to make a comment on the geostationary orbit. There is one point which deserves attention: the coordination of motions of satellites which have been assigned the same nominal position in the geostationary orbit. There are a few such nominal positions in the geostationary orbit at present, but there will be many more if all the announced and coordinated requests for nominal orbital positions are approved. An inspection of the thirty-fourth report of the ITU, contained in document A/AC.105/607, shows that the maximum number of satellites sharing the same nominal position is 11 and that the maximum number of launching States sharing a nominal position is 5. It is possible that some of the planned space stations will not be realized, but still some nominal positions will be shared by several satellites belonging to different countries.

Thus, the problem is real and will have to be solved. The Committee should be aware of this question. However, if it is not taken up by the Scientific and Technical Subcommittee, it will not go unnoticed: it will probably be dealt with by the International Telecommunication Union.

I hope that I will have the opportunity to speak on the third UNISPACE at a later time.

Mr. Kristiarto (Indonesia): My delegation has noted with satisfaction the result of the work of the Scientific and Technical Subcommittee at its last session, as described in its report. As we are all aware, during the last meeting of this Subcommittee, besides having a thorough discussion of various issues on the agenda, we also had some technical presentations made by several delegations and space agencies, from which my delegation to that Subcommittee meeting derived great benefit. Allow me, therefore, to take this opportunity to express our sincere appreciation to all the delegations and space agencies that made those technical presentations at that meeting.

Let me now convey my delegation's views on some items contained in the report.

On remote sensing, I would like to express our satisfaction that the Subcommittee has given appropriate attention to the concerns of the developing countries. As we all know, the Subcommittee has reiterated its view that remote-sensing activities should take into account the need to provide appropriate and non-discriminatory assistance to meet the needs of the developing countries. It also emphasized the importance of making remote-sensing data and analysed information openly available to all countries at reasonable cost and in a timely manner. Meanwhile, in our opinion, the Subcommittee's views on international cooperation on remote sensing, as contained in paragraph 59 of its report, are very much in line with the views and needs of developing countries.

With regard to space debris, my delegation has again noted with satisfaction that, in accordance with General Assembly resolution 49/34, the Subcommittee continued its consideration of this matter on a priority basis. This is a manifestation of greater awareness of the potential danger of the uncontrolled re-entry of space debris. We therefore welcome the multi-year plan adopted by the Subcommittee. In this context, however, my delegation is of the view that, in order to give full protection to all mankind, the Legal Subcommittee at its forthcoming session should initiate the consideration of legal issues relating to space debris.

Finally, with regard to the proposed third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), I should like, on behalf of my delegation, to reiterate a point made in our previous statement — that we fully support the convening of a UNISPACE III. In this connection, we have also noted with appreciation the efforts of the Working Group of the Whole during the last session of the Scientific and Technical Subcommittee. It is our fervent hope that the Committee will give serious thought to the outcome of those endeavours.

Mr. Heiremans (Chile) (*interpretation from Spanish*): I should like to make a few points under agenda item 5 — "Report of the Scientific and Technical Subcommittee on the work of its thirty-second session".

First, in that Subcommittee the following two agenda items were considered together: "United Nations Programme on Space Applications and the coordination of space activities within the United Nations system" and "Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82)". In this connection, we believe that it is important to promote the coordination of space activities in the United Nations system. The recommendations of UNISPACE 82 have not yet been fully implemented. Hence, we should attempt to promote and activate cooperation between the developing countries and the developed countries. We must emphasize the inadequacy of the funds allocated by the United Nations to these programmes.

In addition, it seems to us that the establishment of a regional centre for Latin America and the Caribbean is a matter of great importance. As space research is necessarily linked with problems of development and with the functioning of a body established for this purpose. In this context, we need awareness and cooperation, as well as a considerable increase in the region's capacity to negotiate support for research projects on space matters.

Another item on the Subcommittee's agenda was "Matters relating to remote sensing of the Earth by satellites, including, *inter alia*, applications for developing countries". Here, it seems to us important to emphasize the need for the exchange of information and data between different blocs of countries, particularly those countries that will be the object of remote sensing in respect of such sensitive matters as their natural resources. We should seek to ensure support for any non-discriminatory body in this field.

On the question of the use of nuclear power sources in outer space, my country has continued to comply with General Assembly resolution 47/68, of 14 December 1992, and we therefore approve of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space. My country is in favour of giving immediate assistance to any State that is endangered by these devices, particularly if they have nuclear power sources.

Chile has also called for the adoption of measures designed to determine international cooperation responsibility more effectively and to provide for reparations for damage caused in this way.

Space debris is a priority item both for Chile and for the Subcommittee. We should like to see a proper database detailing the characteristics, quantity and circumstances of space debris. The plan that has been designed should continue to be implemented — but flexibly.

With regard to the space transportation system and its implications for future activities in space, my country, although it does not have such a system, believes that we must take account of the projects and expositions on this space item that have been presented by the more developed countries. We repeat what we said in the general debate: that, with regard to space debris, we believe that there could be included in the agenda of the Legal Subcommittee an item entitled "General principles of international law relating to the environment from a comparative point of view".

With regard to space activities related to the environment, we should be interested in obtaining from the more developed countries a commitment concerning the setting of standards for the use of resources. The secretariat *pro tempore* of the Second Space Conference of the Americas could act as an instrument for the promotion of such cooperation between groups of countries or in the entire region. In this connection, we believe that it is essential to have proper coordination of space information on environmental matters between various environmental secretariats and conventions.

On the question of space technology applied for education, there are certain points that should be emphasized. The secretariat *pro tempore* made an interesting proposal concerning space as an education medium. We also hope to hold two seminars — one of them on education and the use of satellite technology.

Finally, with regard to the possibility of holding a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), we should like to repeat that, given the recent profound changes in the world and the progress that has been made in the field of technology since UNISPACE II, which was held in 1982, we believe there is full justification for a UNISPACE III. The objectives, venue and costs of such a conference would have to be agreed upon, and we believe that it should take place before the end of the century.

The Chairman: I now call on the Secretary-General of the International Society for Photogrammetry and Remote Sensing.

Mr. Fritz: I am very grateful for this opportunity to discuss the role of the International Society for Photogrammetry and Remote Sensing (ISPRS) with reference to agenda items 5 and 7.

Allow me, at the outset, to express the appreciation of the ISPRS delegation for the most capable leadership of the Chairman in improving the efficiency of the Committee on the Peaceful Uses of Outer Space.

I should also like to thank Mr. Jasentulyana and the United Nations Office for Outer Space Affairs for their dedication and hard work. Ever since their arrival in Vienna in late 1993 it has been well known throughout this United Nations centre that they work longer and harder than facilities here are structured to handle.

The International Society for Photogrammetry and Remote Sensing is a non-governmental organization composed of member organizations from 94 nations — normally, national professional societies — plus six active regional member organizations representing Europe, Asia, Africa, the Americas, Australia and Oceania, and 33 sustaining members, which represent corporations and research institutions.

ISPRS is the oldest international organization in the fields of remote sensing, photogrammetry and geographic information systems. This year marks the eighty-fifth anniversary of its founding, which, coincidentally, took place in the city of Vienna.

The aims and objectives of the ISPRS pertain to the development of international cooperation to serve the needs of humanity through the advancement of the science and technologies of remote sensing and photogrammetry, such as machine vision, computer vision and spacial information systems.

These endeavours are coordinated through our seven Technical Commissions and 47 Working Groups under their direction. Each Commission and its associated Working Groups is devoted to a different aspect of the science and is led by a different nation for a four-year term. As such, the ISPRS is the international organization which represents the scientific community of photogrammetry and remote sensing.

During the past year several significant events have occurred which have broadened our scope and activities relevant to the aims of this Committee. In Africa, we have witnessed the successful formation of a new ISPRS regional member, the African Association of Remote Sensing of the Environment, which includes representatives from over 33 African countries; and just last month, in the Americas, ISPRS welcomed its newest regional member, the Pan-American Institute of Geography and History, which is a body of the Organization of American States and which represents 19 nations in spacial sciences.

Two years ago, at the thirtieth session of the Scientific and Technical Subcommittee, I suggested for consideration by the Committee on the Peaceful Uses of Outer Space the development of a United Nations satellite — UNSAT — which could be devoted to recognized peaceful uses of outer space. It would be a high-resolution multispectral Earth-observing satellite that could be activated to monitor world events, whether catastrophic, political, humanitarian or environmental, and that could thus provide a timely, objective source of information for evaluation in a world-wide forum. It could be tasked by the United Nations with a primary purpose of world security to support, for example, peace-keeping, technical assistance, disaster relief, environmental protection and so forth, on a global basis.

It is in this context that the Committee should be aware of some major developments that are making this opportunity technically, politically and economically feasible. As members may know, in 1993 as many as six commercial organizations from various nations embarked on plans to develop and launch very-high-resolution digital Earth observation systems. Although the number of these highly competitive commercial ventures has reduced somewhat, it is clear that by the time the Committee meets next year the first of these high-resolution satellites, Early Bird, will already be operational and will be transmitting three-metre panchromatic scenes routinely. In the autumn of next year, the first one-metre very-high-resolution commercial Earth-observing satellite will be operating as well. It will also provide four-metre-resolution multispectral images. These cameras are highly pointable and thus can allow a revisit of any location on Earth in less than two days.

To a certain extent, these Earth-observing systems are a positive outgrowth of the conversion of defence technology to civil applications. However, regardless of the heritage of the technology, the fact remains that digital image resolutions will be from 10 to 100 times better than ever before available commercially. Hence, the information and applications deriving from these images will be significantly broadened, for both developing and more developed nations of the world, especially as pertains to the development of applications for the support of urban infrastructure.

The outer space Committee has discussed remote sensing since its infancy. Now, remote sensing is maturing as a viable, marketable commodity. Commercialization of Earth-observing systems in space is becoming a reality. Totally financed with private capital, these high-resolution systems are being built on the basis of glowing international market projections of the timely information needed for geographic information system (GIS) and Earth monitoring activities. The owner-operators of these commercial ventures have agreed to provide imagery on a non-discriminatory, timely basis within the precepts and principles set forth by this Committee and adopted by the General Assembly.

During the past year, each of these ventures has been forming multinational and regional alliances, partnerships and distribution centres to make the images available, from the satellite to the consumer, within 15 minutes to 48 hours from the moment of image acquisition. Suffice it to say that these commercial developments may well revolutionize the entire remote imaging community by the end of this century. It is appropriate for the Committee to be prepared to address these new issues as these systems come on line. The Principles Relating to Remote Sensing of the Earth from Outer Space will soon be newly tested. We should encourage the use of these high-resolution satellites as a stabilizing capability for the promotion of world peace. It is in this role that the Committee can provide the forum for leadership and for international consensus on imaging-system priorities.

I would be remiss if I did not mention that, in the interest of furthering international cooperation and understanding, the International Society for Photogrammetry and Remote Sensing will be participating in several international meetings and conferences that will address this topic. And from 9 to 19 July 1996, right next door at the Austria Centre, the ISPRS will convene its eighteenth quadrennial international congress, in which everyone here is invited to participate. These forums may well serve to focus remote sensing issues for discussion at a third United Nations Conference on the Exploration and Peaceful Uses of Outer Space.

Mr. Louet (France) (*interpretation from French*): It had been my intention to speak on the items before us, and particularly on the question of space debris, as it is one of the main items on the agenda of the Scientific and Technical Subcommittee. I wished to elaborate on some of the points I had referred to briefly in my statement during the general exchange of views. But having heard what the representative of Germany said yesterday on this subject, and having carefully read the written text of his statement this morning, I do not think I could be more convincing or adduce any stronger arguments than he, so I shall limit myself to endorsing fully what he said.

The meeting rose at 12.10 p.m.